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ABSTRACT

This report evaluates the Title I and Impact Aid Programs in a Queens, New York, school district. The following activities, conducted in elementary and junior high schools, are analyzed: reading resource centers, an oral communication laboratory program, a non-public school component, bilingual and mathematics resource centers, and the optional assignment remediation program. Each activity is described in terms of its organization, objectives, implementation, and effectiveness. Where available, pre- and post-test scores are provided. In addition, the evaluation procedure is discussed, especially in relation to parent involvement in a program developed to increase skills of parents in evaluating Federally funded programs. (WP)

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FINAL REPORT

AN EVALUATION OF THE

ESEA TITLE I AND IMPACT AID PROGRAMS

COMMUNITY SCHOOL DISTRICT 27

NEW YORK CITY BOARD OF EDUCATION 1977-1978

JULY, 1978

READING RESOURCE CENTERS
JUNIOR HIGH READING RESOURCE CENTERS
IMPACT GUIDANCE
ORAL COMMUNICATIONS
NON-PUBLIC SCHOOL COMPONENT
BILINGUAL RESOURCE CENTERS
MATHEMATICS RESOURCE CENTERS
OPTIONAL ASSIGNMENT
EVALUATION

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An evaluation of a New York City district educational project funded under Title I of the Elementary and Secondary Education Act of 1965 and Impact Aid. (PL 89-10)

A D D E N D U M

FINAL REPORT

AN EVALUATION OF THE

ESEA TITLE I AND IMPACT AID PROGRAMS

COMMUNITY SCHOOL DISTRICT 27

NEW YORK CITY BOARD OF EDUCATION 1977-1978

JULY, 1978

The Impact Guidance Program augmented the Reading Component 5085-81652 of the District 27 - 1977-78 Title I Program.

An attempt was made to provide the teachers and children with additional, practical support in the development of educational experiences that would produce effective classroom teaching and learning.

Impact Aid funds provided teacher and paraprofessional services and instructional supplies in the following components of the District 27 Title I Umbrella 1977-78:

5085-88752 - Reading - 5 Guidance Counselors and 3 Educational Assistants

5085-88753 - Oral Communications - 1 Teacher and equipment for laboratories - Augmented - 5085-81653

5085-88754 - Bilingual - 1 Teacher, 1 Auxiliary Trainer, 2 Family Assistants and 4 Educational Assistants - Augmented 5085-81655

5085-88755 - Math - 1 Auxiliary Trainer and Instructional Supplies Augmented 5085-81656

5085-88781 - Optional Assignment - 2 Educational Assistants - Augmented 5085-81681

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Reading Resource Centers
Function Number E.S.E.A. 5085-81652
Impact Aid Number 5085-88752
FINAL REPORT

Prepared by Dr. Linda Lyons

I. PROGRAM DESCRIPTION

At each of the fourteen Title I elementary schools throughout District 27, reading resource centers were ongoing throughout the 1977-1978 school year. The laboratory staff developed a diagnostic-prescriptive approach to meet the needs of the participants. Individual and small-group instruction were offered to pupils for a minimum of three instructional sessions each week. Linkage between the laboratory staff and classroom teachers was to be maintained on an ongoing basis. Program supervision was provided on a district-wide basis by a coordinator and two auxiliary trainers, who offered in-service training through on-site visits and monthly workshops. To foster communication with parents of participating pupils, a family assistant was based at each of the Title I schools, and a small corps of parent program assistants was allocated to encourage parental involvement in a variety of programs.

II. OBJECTIVES AND EVALUATION DESIGN

Program objective: as the result of participating in the reading laboratory program, pupils would show a substantial growth in reading.

Evaluation design:

(1) During the 1977-1978 school year, four on-site visits were made to each Title I elementary school in which a reading laboratory had been organized. At each visit, observations were made of the reading laboratory programs and interviews were held with administrators and project personnel, as well as a sampling of pupils. Additionally, conferences were held with program coordinators and several district-wide workshops were attended during the school year.

(2) Stanford Early School Achievement Tests in Reading were administered to first- and second-grade participants in the fall, 1977, and the spring, 1978. Pre- and posttest measures were compared, based on a normal curve equivalent analysis, to determine if pupils made significant NCE gains. For participants in grades three through six, performance on the Stanford Achievement Test in Reading, administered in the fall, 1977, was compared to performance in the spring, 1978. The method of historical regression was utilized to determine if pupils' growth in reading was significantly greater than their previous performance would predict.

III. RESPONSE TO PREVIOUS FINDINGS

In the final evaluation report of the previous school year, the following recommendations were made with regard to the implementation of the elementary reading laboratory program: (1) recycling of the program; (2) scheduling of daily instructional sessions, wherever feasible; (3) development of

more precise diagnostic-prescriptive measures; (4) provisions for more formal communication between laboratory personnel and classroom teachers; (5) demonstrations of laboratory techniques at grade conferences; (6) introduction of reading in the content areas at the upper elementary level; (7) recycling of the human relations workshops for family assistants.

Through program observations and interviews with project personnel, it was possible to determine the extent to which these recommendations were implemented during the current year. These findings are summarized as follows: (1) The reading resource program was recycled for the 1977-1978 school year. (2) In order to accommodate the number of youngsters in need of remediation services, instructional sessions for participating pupils were scheduled three or four times a week. (3) An excellent package of diagnostic measures was prepared by the reading coordinators and distributed to each of the laboratories. These tests were administered in the fall by the laboratory staff and were readministered at mid-year by a majority of teachers. At some of the laboratories, attempts were made to classify materials according to specific skill areas, which facilitated a precise prescriptive approach. (4) At nearly half the laboratories, specific periods were allocated for conferences with pupils' classroom teachers. (5) At several laboratories, demonstrations of instructional techniques were given at grade conferences. (6) Reading in the content areas was introduced at a few of the laboratories.

(7) A series of human relations workshops for family assistants was scheduled during the spring term.

Overall, it is apparent that many of the laboratories have implemented a more precise diagnostic-prescriptive program than was the case previously. Coordination of services has been developed to a lesser extent during the 1977-1978 school year.

IV. PROGRAM IMPLEMENTATION

Organization of the Reading Resource Centers

At the start of the 1977-1978 school year, one laboratory had been organized at each of twelve elementary schools and two laboratories at each of two elementary schools. During the spring term, provisions were made for an additional laboratory at each of two schools. Although the teachers who were appointed at midyear were new to a laboratory program, they were able to establish an instructional format similar to that of the other laboratories. The newly organized laboratories, as well as two other elementary programs, serviced pupils in all the elementary grades. The others were about equally divided between lower and upper grade programs.

Initially, pupils were selected for placement in the laboratory program based on their performance on the New York City Test in Reading, administered in the spring, 1977, or, in the case of pupils in the lower elementary grades, on the basis of teacher judgment. Typically, the laboratories

accommodated seventeen pupils at a time and each group was scheduled for three instructional periods each week. Continuity of personnel was maintained, for the teacher and two educational assistants who staffed the laboratories had often been assigned to the same positions during the previous school year.

Instructional Resources and Program Activities

With the exception of the two laboratories which were put into operation during the spring term, programs were operational by the latter part of November. In all instances, the facilities provided for laboratory instruction were quite spacious. As a result, the software and hardware equipment utilized in the laboratories were readily accessible, and small-group instruction was facilitated with minimal distraction. In one instance, the room was shared with a part-time mathematics laboratory. Facilities at all other laboratories were allocated exclusively for instruction in reading.

At nearly all the laboratories, an instructional program has been ongoing for several years. Consequently, an abundance of software and hardware equipment has been provided to develop phonics, comprehension and word study skills. During previous school years, many materials were ordered for the reading laboratories on a district-wide basis. Because limited funds have been allocated during the current school year for additional laboratory materials, the staff at each laboratory has ordered those materials which would be most

appropriate for their program. In most instances, these materials were available by midyear, although, in a few cases, supplies did not arrive until the latter part of the school year.

Materials were selected for laboratory sessions based on an assessment of individual pupil needs. At the beginning of the school year, diagnostic inventories, prepared by the reading coordinators, were administered to all laboratory participants. Results of the diagnostic tests were utilized to compile individual and group profile sheets, which delineated specific skill needs. On these records, pupil weaknesses were noted in phonetic and structural analysis, comprehension and study skills. Consequently, a program of activities could be devised for laboratory participants, to remedy specific deficiencies. Individual prescription forms were prepared for each pupil on an ongoing basis to indicate the materials selected to build various skills. At some of the laboratories, notations have been made of materials selected at each session. In these cases, the prescription forms have provided a precise index of pupil activities and progress throughout the school year.

Although record keeping was fairly uniform throughout the schools, the utilization of a diagnostic-prescriptive approach varied somewhat at the different laboratories. In a majority of cases, at midyear, the staff readministered diagnostic measures, which indicated those skills mastered by the participants and areas which required additional

intervention. In these instances, a precise assessment of pupils needs was made throughout the school year. At one laboratory, the High Intensity Learning System utilized for instructional purposes enabled the staff to implement a diagnostic-prescriptive program on an ongoing basis. In this case, check-in tests were administered initially to assess skill needs. Materials were prescribed and check-out tests were given to determine if the specific skill had been mastered. At another laboratory, all materials were coded and recorded on the prescription forms according to skill areas. This method facilitated the appropriate selection of materials for each pupil. The procedures cited above enabled those laboratories to devise and to implement an instructional program to meet the needs of each laboratory participant.

The instructional format, as well as the use of diagnostic procedures, has also varied somewhat at the different laboratories. For the most part, pupils have been placed in small groups according to similar skill needs, and the staff has rotated to provide instruction to each of three groups. As a result, the teachers have been able to supervise directly the activities of each participant. In instances where pupils have utilized audio-visual equipment, follow-up activities have usually been provided, to determine if the specific skill has been mastered. Because hardware equipment has been in use consistently, some problems have been encountered with regard to repairs or replacement of parts, as needed.

Particularly during the spring term, greater efforts have been made to develop a more individualized program. In many instances where a small group was assigned to complete an activity, youngsters were given different levels of the same software material, according to individual needs. Whereas a completely individualized program has been ongoing at several laboratories throughout the school year, there has been a sharper focus on individualized work at additional laboratories during the spring term. Additionally, various incentives have been devised at some of the laboratories. At some schools, charts of pupil progress were on display or award systems for achievement were instituted, which appeared to be highly motivating to laboratory participants.

During the spring term, increased effort has been made at nearly all the laboratories to encourage reading for enjoyment. In most cases, a circulating library was maintained and pupils were encouraged to take out paperback books. At several schools, a brief free reading period was arranged periodically, during which the staff as well as the pupils selected materials to read for pleasure. This activity appeared to be an excellent means of fostering a positive attitude toward reading.

In a majority of cases, pupil attendance was satisfactory and three instructional sessions were held weekly on a regular basis. However, at three schools, there appeared to be some difficulty in arranging for substitute teachers as needed, and

the laboratory teachers were requested to cover classes on an ongoing basis throughout the school year. In these instances, pupils did not always receive the allotted instructional time as scheduled, and continuity of services was often disrupted.

In-service Training and Coordination of Services

Reading coordinators and several auxiliary trainers provided supervision of the reading laboratory program on a district-wide basis. The district staff made on-site visits to each of the laboratories on a regular basis and held monthly workshops for the reading teachers and paraprofessionals throughout the 1977-1978 school year. During the spring term, presentations were given on the administration and scoring of standardized tests, various approaches to reading remediation, and the use of new materials. Additionally, the laboratory staff demonstrated innovative instructional techniques, which was particularly valuable to those teachers who were new to the program this year.

Continuity of services between the reading laboratory staff and classroom teachers varied throughout the district. Approximately half of the laboratory teachers conferred with pupils' classroom teachers on a regular basis to discuss pupil needs and laboratory activities. At the other laboratories, meetings were generally arranged on an informal basis. In one instance, the laboratory teacher reviewed the class lesson plans on a weekly basis, to ensure continuity of

services. A majority of laboratories has scheduled at least one workshop for parents of participating pupils. In several instances, two workshops were held during the school year. At these meetings, demonstrations of the laboratory resources were given and suggestions were often made for reading activities which could be implemented at home. Overall, the workshops were well attended, despite inclement weather during the winter months.

Liaison Services

A family assistant has been assigned to each of the fourteen Title I elementary schools to maintain ongoing communication with the parents of laboratory participants. The family assistants were provided early in the year with a list of eligible youngsters and have conferred with laboratory teachers and administrative personnel on an ongoing basis to determine the need for parent contact. The family assistants have made home visits to inform parents of behavior, attendance, or health-related difficulties which warranted additional intervention. Parents were encouraged to visit the school to discuss these situations and to attend monthly meetings of the Parent Advisory Council. At these meetings, the family assistants encouraged the parents to visit the reading laboratories, in order to be informed of pupil activities and progress. In some instances, the family assistants, with parental permission, have accompanied pupils to dental clinics and have conferred with guidance

counselors with regard to pupil evaluation. Daily records of activities were maintained on an ongoing basis. In most cases, current records of daily activities were kept. However, in a few instances, greater efforts could be made to keep up-to-date logs. In-service training for the family assistants was provided at monthly workshops. During the spring term, a series of problem-centered workshops was arranged again this year. Through role playing and other techniques, the format focused on the development of effective communication skills. The family assistants were very enthusiastic about these sessions, which were found to be meaningful and relevant to their liaison role.

A small corps of parent program assistants was assigned to coordinate parental involvement on a school-wide basis. The PPAs collected the logs completed by the family assistants and met with the Title I Coordinator on a weekly basis. Additionally, the parent program assistants arranged and attended monthly Parent Advisory Council meetings and encouraged parents to visit the reading laboratories. Their involvement in school and district-wide programs has fostered greater parental participation and has encouraged communication between home and school with regard to a number of meaningful issues.

V. PROGRAM EFFECTIVENESS

Several indices were utilized to assess the effectiveness of the reading resource program. On-site visits

throughout the 1977-1978 school year provided opportunities to observe the programs in operation. Indications of program functioning were also obtained through periodic meetings with administrative personnel and district coordinators. Additionally, standardized test data were analyzed to obtain quantitative measures of program effectiveness.

Stanford Early School Achievement Tests in Reading were administered to first-grade pupils on a pre- and posttest basis. The Stanford Early School Achievement Test in Reading was administered to second-grade participants in the fall, 1977, and the Stanford Achievement Test in Reading was administered in the spring, 1978. For first- and second-grade pupils, a U.S. Office of Education Model A analysis was employed to determine if there was a significant growth in relative group performance. The pre- and posttest scores of pupils in grades three through six on the Stanford Achievement Test in Reading were analyzed by the method of historical regression. For these participants, it was anticipated that growth would be significantly greater than their prior performance would predict.

Results of these analyses are reported in Tables 1, 2, and 3.

Table 1

Model A-1 Analysis of Stanford Early School Achievement Test Data in Reading--Grade 1

N[a]	Subtest	Pretest Scores: Mean Raw Score	Pretest Scores: Percentile Equivalent	Predicted Posttest: Mean Raw Score	Predicted Posttest: Percentile Equivalent	Actual Posttest: Mean Raw Score	Actual Posttest: Percentile Equivalent	t
306	Letters & Sounds	18.00	38	36.00	38	34.44	31	-.26
311	Aural Comp.	16.59	20	16.00	20	16.56	23	-.42

[a]Number of pupils for whom pre- and posttest scores were available.

Table 2

Model A-1 Analysis of Stanford Achievement Test Data in Reading--Grade 2

N[a]	Subtest	Pretest Scores: Mean Raw Score	Pretest Scores: Percentile Equivalent	Predicted Posttest: Mean Raw Score	Predicted Posttest: Percentile Equivalent	Actual Posttest: Mean Raw Score	Actual Posttest: Percentile Equivalent	t
396	Word Reading	43.71	29	38.3	29	37.54	24	-.08
397	Sentence Reading	18.35	41	38.2	41	35.55	32	-.11

[a]Number of pupils for whom pre- and posttest scores were available.

Table 3

Analysis of Stanford Achievement Test Data in Reading--
Grade Equivalent Scores

Grade	Pretest Mean	Pretest SD	Pretest N	Predicted Posttest Mean	Predicted Posttest SD	Predicted Posttest N	Actual Posttest Mean	Actual Posttest SD	Actual Posttest N	t
				Vocabulary						
3	1.85	.76	291	2.10	.98	291	2.28	.74	269	3.81**
4	2.59	.94	341	2.92	1.13	341	3.09	1.01	318	3.39**
5	2.79	1.12	406	3.04	1.29	406	3.44	1.14	367	6.26**
6	3.69	1.21	286	4.03	1.37	286	4.47	1.19	262	5.94**
				Reading Comprehension						
3	2.27	.75	294	2.65	.99	294	3.12	1.06	270	8.12**
4	2.61	.84	343	2.94	1.02	343	3.18	1.01	318	5.69**
5	3.09	.94	408	3.42	1.09	408	3.48	1.03	378	.81
6	3.89	1.41	381	4.24	1.59	287	4.68	1.37	264	4.36**
				Word Study Skills						
3	2.19	.75	293	2.55	.81	293	3.34	1.37	270	9.85**
4	2.34	.84	340	2.62	1.03	340	2.94	1.22	318	5.82**
5	2.71	.94	408	3.07	1.12	408	3.40	1.56	378	5.28**
6	3.51	1.41	286	3.83	1.50	286	4.51	2.00	263	5.97**

Table 3 (Continued)

Grade	Pretest Mean	Pretest SD	Pretest N	Predicted Posttest Mean	Predicted Posttest SD	Predicted Posttest N	Actual Posttest Mean	Actual Posttest SD	Actual Posttest N	t
				Total Reading						
3	2.25	.70	283	2.62	.93	293	3.21	1.07	270	10.41**
4	2.46	.72	341	2.76	.88	341	3.05	1.00	318	8.02**
5	2.91	.84	409	3.21	.97	409	3.38	1.03	378	.15
6	3.84	1.23	290	4.20	1.40	290	4.65	1.49	258	4.80**

**$p < .01$

At the early elementary level, raw scores indicated that pupils in grade one showed no growth in aural comprehension, and pupils in grade two made no gains in word reading. With regard to the other subtests, first graders demonstrated some growth in letters and sounds, and second graders made progress in sentence reading. However, an analysis of relative group performance, in terms of normal curve equivalent (NCE) gains, indicated that pupils' growth on these subtests was not significant. Although the performance of first- and second-grade participants was disappointing, many of the teachers have developed and implemented a precise diagnostic-prescriptive program and appeared to have created a purposeful learning environment. Rapport with the youngsters seemed to be excellent. Further monitoring of the progress of these first- and second-grade pupils may be needed to assess more clearly the impact of intervention on reading performance. The use of a more demanding test for the post-test (i.e., readiness to primary level in grade one) was a factor in the evident lack of progress. It may also be appropriate to note that Model A-1 is a more rigorous procedure than the raw score method of data analysis which had been utilized previously for first- and second-grade pupils.

Test results for participants in the upper elementary grades indicated that youngsters in grade five made gains in vocabulary and word study skills that were significantly greater than their previous growth would indicate. Participants in grades three, four, and six made substantial progress

in vocabulary, reading comprehension, word study skills, and total reading scores. Their growth in all three subtests, as well as total test scores, exceeded that predicted based on previous performance. Clearly, for pupils in grades three through six, the program objective was met. Through the use of diagnostic measures and, overall, through careful selection of materials, the laboratory staff has been able to devise a program to meet individual needs. This approach has been enhanced by an increased focus on individualized instruction during the spring term. The diligence and enthusiasm of the teachers and paraprofessional staff were reflected in pupils' progress in reading.

The reading resource program was enhanced by the involvement of the family assistants. In instances where pupils' personal or school-related problems warranted additional attention, the family assistants filled a meaningful role in establishing and maintaining contact with the parents. By encouraging parents to participate in a variety of school and district-wide programs, the family assistants, as well as the parent program assistants, have fostered greater parental involvement in many important areas.

VI. RECOMMENDATIONS

1. The reading resource centers have been successful in promoting significant growth in reading for most participating pupils, and it is recommended that the program be continued.

2. Many of the laboratory teachers readministered diagnostic tests at midyear. To ensure that appropriate instructional measures are being implemented on an ongoing basis, it would be appropriate for the staff at all the laboratories to institute these procedures.

3. It would be beneficial for teachers to classify all laboratory materials according to the level and type of skill which these materials were intended to develop. Consequently, instructional materials may be selected in accord with the specific needs of each participant.

4. To acquaint teachers who are new to the program with instructional techniques and the use of materials, it would be beneficial to schedule visits early in the school year to previously established laboratories.

5. In several cases, laboratory teachers often covered classes throughout the school year because a sufficient number of substitute teachers were not available. At these schools, other arrangements should be made to enable the laboratory teachers to implement the program as scheduled, so that participants may derive maximum benefit from instructional services.

6. Because hardware equipment was in use continuously throughout the school year, repairs or replacement of parts were sometimes needed. It would be beneficial to allocate some monies on a district-wide basis, so that laboratory equipment may be maintained in good working order.

7. Although meetings between laboratory personnel and classroom teachers were held periodically at some schools, in a majority of cases, conferences were arranged informally. It would be advantageous to arrange for linkage periods at all schools, at least on a monthly basis, to ensure continuity of services.

8. Workshops for parents of participating pupils were scheduled at most of the elementary schools. Increased efforts should be made to schedule these workshops at all schools. The family assistants could provide considerable assistance by encouraging parents to attend the laboratory workshops.

VII. SUMMARY

Reading resource centers have been ongoing at each of the fourteen Title I elementary schools throughout District 27 during the 1977-1978 school year. During the spring term, two new laboratories were organized. A teacher and two educational assistants staffed each of the laboratories, which offered individual and small-group instruction to pupils in grades one through six. Youngsters were selected for placement in the program based on their performance on New York City Tests in Reading, administered in the spring, 1977, or on the basis of teacher judgment for pupils in the early elementary grades. Laboratories were fully operational by the latter part of November. Individual skill needs were assessed through the use of diagnostic inventories and

prescriptive measures were assigned to remedy specific skill weaknesses. Prescription forms and test scores were maintained in individual folders for each participant. Few new materials were ordered during the current year, but most of the laboratories were already equipped with an abundance of software and hardware equipment. During the spring term, a more individualized approach was developed at some of the laboratories. Program supervision and in-service training were provided on a district-wide basis by reading coordinators. Regularly scheduled conferences between the laboratory staff and classroom teachers were held at some of the schools. Parent workshops have been arranged at a majority of schools. Ongoing communication with parents of participating pupils was maintained by family assistants and, on a school-wide basis, by a small corps of parent program assistants. Standardized test data indicated that, although first- and second-grade participants showed some progress in reading, gains were not significant. Analysis of pre- and posttest data at the upper elementary level indicated that pupils in grades three through six showed significant growth over the course of the school year. Clearly, the program objective was met for a majority of participants. Recommendations included program recycling, readministration of diagnostic measures at midyear, classification of laboratory materials according to skill areas, arrangements for new teachers to visit established laboratories early in the year, adherence

to the instructional schedule at all schools, arrangements for district-wide repairs of equipment, scheduling of conferences with classroom teachers and parent workshops at all schools.

Junior High Reading Resource Centers
Function Number E.S.E.A. 5085-81652
Impact Aid Number 5085-88752
FINAL REPORT

Prepared by Dr. Gloria Harris

I. INTRODUCTION

A significant number of students enter Junior High School with unremediated deficiencies in reading, particularly in vocabulary, word attack, comprehension, and work-study skills. Title I Reading Resources laboratories have been established at the secondary level to assist Title I eligible students to improve their reading skills. The Title I reading labs were designed to deal with the needs of the individual reader holistically rather than in a piecemeal fashion which emphasizes only what happens to the reader in the remedial classroom. The Title I lab proposal gives attention to the linkage of the home with the reading lab as well as to the linkage of the reading lab with the subject matter classroom.

The proposal guidelines included the following:

1. Each lab provides 45-minute periods of instruction daily for five groups of fifteen children.

2. A lab teacher and two paraprofessionals work with small groups and with individuals during a given lab session.

3. The lab teacher and a subject matter classroom teacher exchange information and plan cooperatively concerning reading skills.

4. The lab teacher and the paraprofessional plan cooperatively for the work of the lab and maintain individual

and group profile charts and folders related to formal and informal diagnosis, prescriptions, and completed work.

5. The family assistant makes contacts with parents concerning attendance and/or behavior problems referred by the lab.

II. EVALUATION OBJECTIVES AND PROCEDURES

Program Objective

Pupils who participate in the reading resource lab program will show significant growth in reading.

Evaluation Procedure

Three rounds of visits were made. The first round was made to all four schools to observe the operation of the labs and to interview the coordinator, lab teachers, para-professionals, and administrators to determine the extent of compliance with the objectives as stated in the proposal.

The second round of visits in the early spring provided information concerning changes and improvements in the operation of the labs. During this phase, Lab D was observed more intensively to determine the extent to which improvements had been made after a new lab teacher was assigned. Informal conversations with students was included during the visits to all the labs.

The third round of visits made in the late spring was designed to update information concerning linkage between the lab teacher and the subject matter teacher. Attention

was given also to the work of the family assistant and the coordinator's on-site workshops. One meeting was attended and the minutes of other meetings were discussed with the coordinator. Finally, an examination of records, program evaluation, and rating forms for linkage manuals was made in the coordinator's office as a final step in the overall evaluation of the program. Pre- and posttest scores will be included later in this report.

III. PROGRAM DESCRIPTION

During the school year, September, 1977 to June, 1978, Title I reading resource labs operated in one intermediate and three junior high schools in District 27, Queens. A lab teacher and two paraprofessionals working in conjunction with a subject matter linkage teacher and a family assistant comprised the team for the work of each lab. The following description is based on information gathered through interviews and observations made during the course of the school year.

Numbers and Grades of Children Affected

Each lab provided instruction for five groups of children each day. The students being serviced were in grades six to eight of which the largest group was the seventh grade classes. Each group attended the lab for a minimum of three periods a week or more depending on the diagnosed need. Attendance records were kept for all children attending the lab.

There was some slight variation in the number of children serviced per session. One lab serviced approximately seventeen children while most averaged about fifteen children, depending on actual attendance patterns. One lab had serious problems in maintaining a stable population because of unresolved attendance problems and confusion concerning students who were Title I eligible. Visits to another lab revealed that on that day only ten students arrived for one period. For most labs, however, the average attendance was relatively good.

Linkage with the Home

With respect to attendance the family assistant played an important role. When there was effective ongoing communication between the lab teacher and the family assistant, chronic absenteeism, lateness, and cutting were identified quickly and contact with the home was made to seek parental cooperation in identifying and solving the problems underlying the poor attendance. In each school there was a family assistant who was experienced and interested in facilitating this process. The principal in one school reported that report cards were sent home to inform parents about the progress of their children in the reading lab with specific reference to attendance and behavior.

Parent assistants also initiated group meetings with parents. Although some parent assistants met with success, afternoon meetings for parents of children on the secondary

level are often inconvenient and thus poorly attended. Evening meetings have met with the best parental response.

Linkage with the Classroom

Linkage between the lab and the subject matter classroom was in effect in the four schools. Two labs were linked with social studies and one each with English and with science. There was evidence of social studies materials in the two labs and students were observed at work with materials related to reading and social studies. In most instances, one-half of the group went to the reading lab while the other half remained in the classroom working with material which linked reading and a subject area. When questioned, one social studies teacher provided examples of materials used in class to supplement and reinforce the development of reading skills. In like manner, the English teacher indicated that the activities in her classroom were closely related to the work of the reading lab.

Communication between the lab teacher and the subject area teacher depended on the use of verbal and written exchanges. In evidence was a sheet designed to facilitate the exchange of specific information about vocabulary and skills common to both classes. One social studies teacher reported that every effort was made to help students develop confidence in reading the social studies text by having the lab teacher deal with the same vocabulary and work-study skills whenever possible. In addition, there were linkage manuals

provided for each teacher. An examination of the social studies manuals revealed that teachers were given specific help with planning for the content and activities for use with the students. A rating form circulated to the teachers gave high marks to the manuals but indicated that even more suggestions for activities could be included.

In one school, grade meetings were mentioned as a method of facilitating contacts between the lab teacher and the classroom teacher. Generally speaking, these meetings are excellent for the purpose but very often difficult to implement in the junior high school.

Space Allocation and Utilization

All of the labs were housed in easily accessible rooms with the exception of one lab which required entry through a library. There was some variety in the amount and kind of space allotted to each lab. Two labs had one very large room and two smaller rooms to use as a remedial complex. One lab had a fairly small room; another had ample space which it shared with a Special Needs reading lab.

The size of the lab did structure the program to a certain extent. For example, the labs with the two extra rooms were able to give the paraprofessionals a private working area for use with small groups. One lab teacher converted one of the small rooms into an audio-visual center. The labs that had only one room available worked mostly in three groups with a limited amount of independent work activity.

One lab teacher converted the large room into a fully individualized workshop in which a variety of simultaneous activities were possible.

Materials and Resources

All of the labs with one exception had a good supply of print materials including commercial workbooks, content area material, kits, and magazines. In most labs there was variety with respect to print and nonprint materials, as well as the availability of materials appropriate for different interest levels and reading abilities. There was, however, one lab that had only a meager supply of materials until new materials began to arrive later in the year. Unlike the other three schools, this school did not have a reservoir of materials built up over the years such as was available in the schools which had had laboratories in operation for many years.

In evidence in most labs were such standard workbooks as the McCall-Crabbs and Barnell-Loft reading skill series. In use also in most labs was the ethnic heritage materials developed by SRA and Continental Press. Later in the year new sets of audio-visual materials and workbooks arrived which greatly enhanced the offerings in the classrooms where they were used. These audio-tapes and film cassettes related to contemporary personalities and subjects of interest to teenagers. It was evident that the students welcomed this material and enjoyed using it.

One lab was extremely well stocked with a wide variety of commercial and teacher-made material. The lab teacher reorganized the lab so that all of the materials were easily accessible to the students. Each item was color-coded and organized into cartons clearly labeled to cover such areas as reading comprehension, word study, and work-study skills. A wall chart served as a guide for locating materials quickly and easily.

Two lab teachers showed ingenuity in creating their own materials. One teacher made excellent critical reading charts based on articles and advertisements clipped from the newspaper. Another teacher created printed materials and audio-tapes needed to supplement the parts of commercial materials that were inadequate for use with the students.

Diagnosis and Recording

Efficient attention to the administration and use of informal and formal diagnosis measures was evident in all labs with one exception. In three labs individual pupil folders containing diagnostic information, test results, records of completed assignments, and samples of completed work were available for examination. Some labs had a detailed system of record-keeping maintained on individual and class profile sheets. One lab teacher made a profile chart showing an analysis of seventy-two comprehension skills with an entry for each student with color-coded notations to indicate levels of competence. Another chart showed diagnosed

competencies in vocabulary in a similar manner. Other labs called attention to their use of informal diagnostic measures such as oral reading tests and graded word lists. In one of the four labs it was evident that the ongoing diagnosis and record keeping was not up to the standard set by the other labs. The problem stemmed from a change of lab teachers which left many of the diagnostic tasks unfinished that should have been completed during the early weeks of the school year.

Philosophy and Methodology

All of the labs focused essentially on three well-organized groups of children closely supervised by a teacher or a paraprofessional. Two labs used this pattern exclusively; two others experimented with more independent work on the part of students. All labs stressed the use of the multi-level workbook which placed emphasis on developing comprehension skills. Closely monitored groups of children engaged in oral reading and silent reading were questioned orally or in written form to enable students to get immediate feedback for correct and incorrect responses. Each adult worked intensively with the group throughout the period. Emphasis was placed on the development of critical thinking skills through the use of probing questions which required students to justify their answers. One lab was characterized by a carefully crafted series of experiences provided by the lab teacher in close cooperation with the paraprofessionals.

The comments of the teacher in this lab evidenced a good knowledge of learning disabilities methodology which was effectively used with the most severely retarded readers.

The labs that experimented with more independent work placed special emphasis on developing self-initiated learning. One lab moved in the direction of creating a lab program which emphasized peer-directed learning but at the same time preserved the strengths of the teacher-directed small group approach. An examination of student prescription sheets revealed that during a given lab period the student had a number of options for improving his reading in this lab such as independent work with boxed materials, work in the audio-visual center under the supervision of a paraprofessional or work in a teacher-directed group using a workbook or printed exercises. The teacher who used this model felt that students were enabled to assume more responsibility for their own reading development.

IV. RESULTS OF TESTING

Alternate forms of the Stanford test in reading were administered to students in the labs on a pre- and posttest basis to determine the extent to which reading growth had occurred. It was expected that there would be a significant difference between actual and predicted posttest scores. Appropriate statistical methods were employed to increase the validity of the scores. The overall data related to grades six to eight are presented in Table 4.

Table 4

Analyses of Stanford Achievement Test Reading Scores, by Grade

Grade	Pretest Mean	Pretest SD	Pretest N	Predicted Posttest Mean	Predicted Posttest SD	Predicted Posttest N	Actual Posttest Mean	Actual Posttest SD	Actual Posttest N	t
				Vocabulary						
6	3.44	.96	24	3.74	1.08	24	4.76	1.16	28	3.64**
7	4.14	1.37	208	4.48	1.52	205	4.88	1.39	218	3.01**
8	4.91	1.16	121	5.28	1.27	122	5.08	1.29	105	-.74
				Reading Comprehension						
6	3.64	1.11	24	3.98	1.27	24	5.19	.80	28	3.89**
7	3.73	1.21	207	4.03	1.34	205	4.82	1.17	192	6.08**
8	4.90	1.41	124	5.26	1.54	122	5.45	1.26	110	3.82**
				Word Study Skills						
6	3.90	1.46	24	4.27	1.66	24	4.66	1.43	28	1.70
7	3.90	1.40	205	4.22	1.55	205	4.70	1.58	207	3.66**
8	4.83	1.57	122	5.19	1.72	122	4.88	1.58	109	.18
				Total Reading						
6	3.94	1.12	24	4.32	1.28	24	4.95	1.03	28	3.05**
7	3.91	1.06	206	4.23	1.18	206	4.76	1.13	197	6.39**
8	4.89	1.30	122	5.25	1.43	122	5.21	1.21	108	2.59

**$p < .01$

The results of examination of the pre- and posttest scores for comprehension for grade levels six to eight were encouraging. Comparisons of actual and predicted posttest scores yield significant differences in most instances. The analysis indicates that growth levels, particularly in grades six and seven, have occurred beyond normal expectations based on prior performance. Evidently the special attention given in the labs to developing comprehension and critical thinking skills has yielded these encouraging results. The correlated *t* test scores for grades six and seven are generally high enough to indicate that students' skills have been markedly increased in this school year (see Table 4).

A school-by-school analysis shows that sixth and seventh grade individuals made highly significant gains in developing comprehension skills, as indicated by Table 5. These are good results which occurred in a subtest that normally does not yield good growth indicators for a remedial population. The comprehension questions asked on the standardized test require critical thinking skills that were apparently reinforced in the lab and the subject area classrooms.

The growth pattern for grade six is also notable with particular reference to the total grade score which shows a highly significant increase from pretest to posttest. Continuance of these students in the reading lab could result in further good gains in the seventh grade.

Table 5

Junior High School Reading Program
(Achievement School-by-School)

School	Test	Pretest Mean	Posttest Mean
	Grade 6 Grade Equivalent Scores		
B	Vocabulary	3.44	4.76
B	Comprehension	3.64	5.19
B	Word Study	3.90	4.66
B	Total Reading	3.94	4.95
	Grade 7 Grade Equivalent Scores		
A	Vocabulary	3.80	4.54
B	"	4.49	5.03
C	"	4.75	5.27
D	"	4.08	4.78
A	Comprehension	3.38	4.37
B	"	3.77	5.17
C	"	4.36	5.30
D	"	3.80	4.77
A	Word Study	3.76	4.29
B	"	4.79	5.12
C	"	4.06	5.18
D	"	3.82	4.45
A	Total Reading	3.66	4.30
B	"	4.37	5.11
C	"	4.32	5.33
D	"	3.92	4.84
	Grade 8 Grade Equivalent Scores		
B	Vocabulary	4.84	5.17
D	"	4.95	4.97
B	Comprehension	4.76	5.69
D	"	4.98	5.38
B	Word Study	4.35	4.95
D	"	5.12	4.80
B	Total Reading	4.64	5.34
D	"	5.04	5.06

Despite the overall growth pattern indicated, it is equally true that the profile for grade eight is not as encouraging as the results for grades six and seven. An examination of the scores on Table 4 indicates that pre- and posttest gains were apparently somewhat minimal across all of the subtests. Here again, the comprehension score is the most encouraging when compared with other scores. The eighth grader is at a difficult developmental growth stage and for that reason may be more difficult to motivate. It could be that efforts with this group will show more marked gains next year since expectation of exiting to high school may increase students' motivation to master reading skills.

In summary, lab participants in grades six and seven showed encouraging gains in reading as judged by a comparison of scores on the reading comprehension subtest. Although all the participants showed positive growth indications, the growth was not outstandingly higher than previous performance would indicate in some cases. The generally excellent gains made in comprehension are in all likelihood due to the stress placed on this particular skill in the various labs.

V. SUMMARY OF PROGRAM STRENGTHS

The existence of reading resource labs in the four schools made it possible for a substantial number of Title I eligible students to receive help several days a week from knowledgeable teachers ably assisted by experienced paraprofessionals. The level of planning and management by lab

teachers in the labs was very competent and effective. It was evident during the observations that the paraprofessionals, without exception, provided strong support for the work of the lab. They must be given special commendation for the rapport they established with the students even in the most difficult circumstances. Their lessons, which were well conducted, gave attention to developing critical thinking skills through effective questioning.

In general, the tone of the lab rooms gave every indication that the students valued the opportunity to receive personalized attention in a nonthreatening atmosphere. A further indication was the relative absence of disruptive and inattentive behavior and the high incidence of enthusiasm and involvement in the groups. Small-group sessions were generally quite lively and relaxed. Evidently, small-group activity served as an important vehicle for valued peer socialization.

The family assistant in the program served the important function of linking the lab with the home. It was evident that the family assistant was most effective when the lab teacher detected problems in behavior and attendance early and referred them immediately for follow-up. Interviews revealed that the family assistants were well-trained and competent in performing their duties.

Each school had at least one administrator or supervisor who took special responsibility for the functioning of the

Title I lab. All those interviewed were enthusiastic and well-informed about the guidelines for the reading program. Credit must be given to the Assistant Principal for the strong support given to one particular lab despite the initial obstacles that blocked its progress.

Throughout the round of observations it was evident that the coordinator for the Title I reading labs provided clear direction to lab personnel with respect to the expectations for the operation of the labs. An examination of materials distributed to lab teachers showed that a step-by-step explanation of all the required procedures for diagnosis, prescription, record-keeping, and management were presented in detail through verbal and written information. At the workshop attended, the coordinator's presentation of ideas and concepts was highly effective.

Commendation must be given to the district coordinator who monitored the programs and made available to the labs new materials that were effective in relating to the contemporary interests of teenagers. These materials greatly enhanced the programs when they were introduced.

VI. RECOMMENDATIONS

In view of the direction of positive gains shown by the test results, it is important that the reading resource labs be continued for the next school year, 1978-1979. It is important that the labs double their efforts to provide a program which deals with specific diagnosed skill deficits

in a precise manner. The data also indicated that special attention will need to be given to the eighth graders who will be in the ninth grade next year. Every effort should be made to capitalize on the natural motivation that develops as students look forward to high school. The students who will be entering the ninth grade in September who were in the labs are still at least two years behind in reading. A special program of intensive work should be undertaken at the ninth grade level.

With respect to the students in grade six and seven who have shown a good growth pattern, it is important that every effort be made especially for the new eighth graders to overcome any apathy that might develop. For this reason special attention should be given to retention of these students in the lab program. Careful monitoring by lab teachers and family assistants of attendance patterns and efforts to secure parental involvement should be emphasized.

The following are a few specific recommendations:

1. Each lab should insure that all places for students are filled. Chronic absentees should be referred to the family assistant and every effort made to retain the students. Students who transfer or drop-out should be replaced with other students.

2. Every effort should be made to decrease the loss of instruction time because the lab is closed for administrative reasons. Understandably, the problem of securing

substitutes is acute in the junior high school, but a closed lab represents the loss of precious instructional time for a needy student.

3. Apparently the gains in the reading comprehension subtest may be due in part to the reinforcement of reading in the subject areas. For this reason, more systematization of exchanges between the reading teacher and classroom teacher such as more work with vocabulary could have benefits for the learners. Grade conferences to reinforce the exchange of information would be useful in this respect.

4. One lab in the program experienced a number of difficulties in getting a new program started. Efforts to improve the problems noted in that situation are already in process and should be encouraged. They are as follows:

- The identification of Title I eligible students has been clarified for the new year.
- Scheduling has been adjusted so that students who attend the lab will not miss other classes.
- Materials to enrich the meager supply are on order.
- The family assistant will establish closer communication with the lab teacher so that absentees may be referred quickly. Evening meetings for parents will be suggested.

5. The language experience approach in which students read and write their own materials in a program which emphasizes total language development is a promising idea,

particularly for vocabulary and word study development. The coordinator has already expressed interest in this program.

6. In the interest of fostering lifelong reading interests and habits as well as developing critical reading skills, all labs should systematize linkage with the school library. The development of a taste for good literature should be an integral part of any reading program.

Impact Guidance
Function Number 5085-88752

FINAL REPORT

Prepared by Dr. Howard Norris

I. PROGRAM DESCRIPTION

The Impact Guidance Program was gradually introduced as part of Title I services in District 27 during the 1977-1978 school year. It was an attempt to give additional, practical support to programs that are based upon the belief that children's learning is an extremely complex process. The process occurs most effectively when children are physically healthy, psychologically prepared, scholastically motivated, and provided with educationally sound experiences. The process loses effectiveness whenever significant deficits appear in any of these areas.

Teachers, working directly with children, attempt to develop and blend educational experiences into the kinds and qualities of existing psychological preparations, scholastic motivations, and physical states of pupils. The more expert the help provided in understanding and dealing with these areas, given the demands of educational preparation and teaching, the more effective the teacher will be in classroom functioning.

It is precisely here that guidance services were planned to have their most significant impact. Such activities as counseling children relative to the psycho-educational-social

problems which might impede their scholastic performances, aiding in the diagnoses and development of resultant prescriptive educational procedures, making referrals to various medical and psychological centers, contacting and meeting with parents about their children, and consulting with teachers relative to their concerns about pupils are all examples of how guidance workers have positive impacts upon children's physical health, psychological preparation, and scholastic motivation as well as teachers' educational planning. The "bottom line," the ultimate goal, for all Title I programs is to maximize pupil scholastic performance, whether it be in reading, language arts, or mathematics.

II. PROGRAM EVALUATION AND PROCEDURES

The evaluation consisted of two segments. The first involved interviews with Title I guidance counselors, observing some of their procedures and obtaining samples of work forms. The second involved separate visits to the counselors' schools to obtain impressions of the quality and value of their services from administrators and Title I teachers. Guidance counselors were visited at PS 183, 105, 106, IS 53 and JH 198.

Interviews with counselors were directed to gaining a full picture of counselors' functioning. While some questions were asked, information was generally obtained by initiating and maintaining professional, exploratory dialogues. The evaluator was interested in learning about the procedures

employed in establishing services, particularly since guidance personnel all began at variant times after school opened in the fall, extending from two to seven or eight months later.

Other data deemed important was the manner in which the names of children to be seen were obtained, the priorities established for seeing them, whether there was a waiting list and, if so, how long. Information concerning specific school activities in which counselors were engaged and their relative importance, such as involvement with teachers, parents, community agencies, private practitioners, etc., was also gathered. Further matters of interest dealt with record keeping, kinds and dispositions of children seen, and whether or not they were followed up. The evaluator also wondered about possible differences in functioning at various schools by those counselors attached to more than one school; whether there was a difference in cooperation and ease of working and any variance in the use of their services. Finally, recommendations and suggestions were gathered.

The five schools were visited to obtain impressions from administrators and Title I teachers about counselors' work and effectiveness.

This segment of the evaluation is particularly relevant because it gives the consumers' view, as it were, of guidance services. Interviews focused on the kinds of services being provided and the quality of these services. Impressions were

obtained about their value to children both in terms of direct contacts and through interactions with teachers, administrators, community agencies, parents, etc. Suggestions about improvement of services were also obtained.

III. FINDINGS

Impact Guidance programs were initiated into the various Title I schools at various times after the school year began. It was necessary, therefore, for counselors "to work into" existing schedules and routines. This was apparently accomplished with a minimum of disruption.

All counselors began largely in the same manner, i.e., setting up folders for each Title I child containing present functioning level, teacher impressions, and some relevant historical information. Brief contacts were also made by most counselors with virtually all Title I children "to get acquainted."

An attempt was made to initiate a formalized service routine by obtaining referrals of children from teachers. Priorities for seeing children were established based upon teacher-counselor assessments of pupil needs. Initially, most counselors required an official referral form to be completed for all children. However, as the tempo and operations of the schools were more accurately sensed, there was some degree of lessening of formal form requirements in favor of the more informal, flexible and effective method of having a more continuous flow of communication with teachers.

The more formal route was generally used for referrals having greater complexity, frequently involving diagnostic evaluations, parent conferences, and at times contacts with community agencies. Notations, though, were kept of virtually all significant contacts, extending from anecdotal comments to the more formal referral forms.

The impression was obtained with four of five counselors that, although they were fully utilized, almost constantly "on the go," available for and effective with emergency as well as more routine operations, they were largely "on top of" things. Their days were filled with counseling children, emergency interventions in classrooms, meeting with teachers and parents, following up children whom they had seen. Despite this, at times almost hectic activity, they firmly recognized their direction and clearly understood their functioning. The fifth counselor was less certain about direction and carry-through of activities.

By and large, it was apparent that counselors viewed themselves as very supportive personnel supplying the counseling and consultative humanistic-educational services that enabled many Title I children to function more effectively and constructively in school. They all gave the impression of attempting to provide as fully as possible these services.

Counselor emphases in terms of kinds of services provided differed somewhat from counselor to counselor. It apparently depended upon school need and atmosphere in

interaction with counselor personality, background, and orientation. Some emphasized formal counseling, some teacher contacts, some parent meetings, etc. However, all services in variant amounts were provided.

Ratings of counselors, judgments of their performances and of the value of their services by administrators and Title I teachers were, in four of five cases, extraordinarily high. There were largely "rave reviews." It was believed that they were not only highly dedicated, but that their services were very helpful and provided on a high professional level. Many of the children counseled were found to have benefitted. Parents, because of counselor contacts, were frequently more cooperative and/or helpful. There was more aid given by community medical and psychological agencies. Consultative services provided to some of the teachers were also often appreciated. In one case, ratings were less than would be hoped.

IV. SUMMARY AND RECOMMENDATIONS

All counselors were found to be dedicated and hard working. They all provided a wide variety of supportive services, including student counseling, parent contacts, psycho-educational diagnostic activities, including referrals to community facilities, consultation with teachers, follow-up with pupils for whom some service had been previously provided, crises intervention, and record keeping. With four of five counselors, there was the sense that they largely were

in control of all of these activities and directed them in an effective manner.

In the judgment of administrators and Title I teachers, services provided by the Impact Guidance Program were on a high level and were found to be very useful and effective. This was true with four of five counselors. The services in terms of direction and control were somewhat less than what was hoped for in the case of one counselor.

The following recommendations are based upon the above findings:

1. In Title I schools serviced by four of five counselors, additional guidance time would be helpful.

2. Single counselors are assigned full time to IS 53 and JH 198. The other three counselors each work in two schools, spending three days in one and two days in the other. PS 42, 105, and 197 have guidance services for three days per week and PS 106, 183, and 215 are serviced two days per week. It would be more efficient and provide greater continuity to decrease the amount of staggered time and split schedules. One counselor in a particular school giving full time is often more effective than two part-time counselors.

Oral Communication Laboratory Program
Function Number E.S.E.A. 5085-81653
Impact Aid Number 5085-88753
FINAL REPORT

Prepared by Dr. Wendy Oxman and Dr. Nicholas Michelli

I. INTRODUCTION

The Oral Communications Laboratory Program, a newly organized program funded under Title I in District 27, was designed to provide special instructional activities directed toward the improvement of oral language and reading skills among participants.

The laboratory program was implemented in three schools. In each of these schools, a teacher and a paraprofessional assistant implemented the program, with the assistance of the Program Coordinator. Materials and equipment such as video cameras, videotapes, and monitoring equipment were provided. Listening comprehension equipment, such as cassette tape players, tapes, headphones, and commercially prepared listening materials were provided, also. In four additional schools, listening comprehension materials were provided to supplement the reading laboratory programs in those schools.

In each Oral Communications Laboratory, students from third grade through sixth grade were selected on the basis of deficiencies in communications skills, and attended the laboratory in groups of fifteen. They participated in activities such as story telling, creative pantomime, puppetry, dramatics, and reporting.

II. PROGRAM OBJECTIVES

The objectives of the program were to improve language comprehension, language production, and reading skills among the participants. The Stanford Achievement Test's Listening and Reading subtests, and the Dailey Oral Language Facility Test were used in the program evaluation.

III. PROGRAM IMPLEMENTATION

The Oral Communications Laboratory Program has been fully implemented in three schools with supplementary services available in four additional schools. Each of the three schools with the full program has a classroom devoted to an Oral Communications Laboratory. Each laboratory, serving children in grades three to six, is staffed by a teacher and a paraprofessional. Equipment in each laboratory includes a cassette videotape recorder, camera, and receiver, and a cassette tape recorder and listening stations. A variety of educational materials geared toward the development of listening skills and skill in oral communication is in use. Each teacher has been trained by the project coordinator and his efforts have led to a consistency of program among the three schools.

Each Oral Communications Laboratory was set up with "centers" including video, listening, and research. In the listening center students usually listened to a cassette recording and then responded to a series of comprehension questions. The research center involved students in using

resource materials for the preparation of scripts for later use in the video center or in preparing materials and props for presentation to other students (i.e., puppets, costumes, etc.).

The most complex center in each Oral Communications Laboratory was the video center. This center provided a basis for students to assume a number of roles related to the production of a videotape. In addition to serving as actor/actress before the camera, a role every student was involved in at some point, students also worked in such roles as announcer, director, researcher, camera operator, master of ceremonies, audio technician, stagehand, artist, and script writer. Students learned terminology related to video production including alternative camera angles, proper equipment adjustment, stage cues and the like.

In classes observed it was apparent that the production of an actual videotape represented the culmination of a long period of preparation and planning during which students learned to interact with each other and work in groups toward a common goal. The planning process included the preparation of a story board on which the abstract idea of producing a news broadcast, a commercial, or a circus became a very concrete plan with each scene and related role identified. Each student was expected to take responsibility for producing a show, putting together his/her staff, and, in general, exercising leadership in terms of the whole production.

One project which was carried out in the laboratories during the spring, observed by the evaluators, was the production of a circus. In preparation for taping, students identified those elements of circus performance that could best be represented through video taping. The elements identified included the ringmaster, dancers, animal trainers, tumblers, and tightrope walkers. Students identified the props needed to represent each element and identified students who would assume technical roles as well as those who would serve as "talent." What followed was an intensive period of preparation. Students, with the assistance of the teachers and paraprofessionals, secured the needed material and began rehearsal while the technical staff considered the best sequence of acts and camera angles. The project generated an unusually high level of motivation and cooperation. Students learned to plan carefully, to take the steps necessary to bring their plans to fruition and had a concrete representation of their efforts--the videotape itself.

Another complex project involved students planning an experiment in science which would be videotaped and made available to other classes. The potential of this project for establishing linkages between the lab program and other classes is important.

IV. PROGRAM EFFECTIVENESS

In this section, the results of the analysis of test data, and of school and program personnel and student questionnaire responses are presented.

Analysis of Test Data

Within the Oral Communications Laboratory each student was tested on the Stanford Achievement Test, Listening Subtest, on the levels appropriate for his/her grade, and on the Dailey Oral Language Facility Test. The latter test is an individually administered examination which is designed to elicit a series of stories from the student in response to pictures. Teachers assess the stories told by the students in terms of the complexity and maturity of the language used. Reading scores (Total SAT Reading) for most participating students were obtained from the records of the Reading Laboratory Program, and utilized in this evaluation.

Historical regression analyses and correlated *t* tests between pairs of predicted and actual posttest scores were used in each analysis.

In Table 6 the results of the analysis of Listening Test scores are presented.

Table 6

Oral Communications Program: Analyses of Listening Test Grade Equivalent Data

	Pretest			Predicted Posttest			Actual Posttest			
Grade	Mean	SD	N	Mean	SD	N	Mean	SD	N	*t* corr.
3	1.65	.83	57	1.86	1.09	56	2.75	1.24	56	6.05*
4	2.55	.90	62	2.89	1.11	62	3.55	1.13	62	4.61*
5	2.79	1.09	97	3.08	.89	95	3.73	1.34	98	6.54*
6	3.53	1.00	47	3.88	1.16	44	4.68	1.26	44	4.28*

*$p < .01$

Analysis of the scores on the Listening Subtest of the Stanford Achievement Test reveals highly significant gains above expectation at each grade level. Pretest scores were quite low; except for fourth grade, they were lower than pretest scores in Reading (see Table 7). This set of analysis shows that participating students were very much in need of instruction designed to improve listening comprehension skills; indeed, it is difficult to see how reading comprehension can advance much beyond the ability to comprehend through listening at these achievement levels.

Table 7 presents the results of the analysis of Reading Test scores.

Table 7

Oral Communications Program: Analysis of Reading Test Total Scores as Grade Equivalent Data

	Pretest			Predicted Posttest			Actual Posttest			
Grade	Mean	SD	N	Mean	SD	N	Mean	SD	N	t corr.
3	2.00	.39	37	2.32	.52	37	3.22	.73	23	5.78*
4	2.54	.75	48	2.87	.92	48	3.05	.93	40	2.88*
5	3.05	1.16	85	3.38	1.36	85	3.42	1.06	78	1.34
6	4.05	.97	40	4.46	1.10	40	5.25	1.11	39	3.76*

*$p < .01$

These analyses of Reading Subtest scores reveal highly significant gains above the level of expectation based upon the historical regression analysis for each grade except fifth grade. It may be noted that Reading Comprehension

subtest scores for the fifth grade appeared to show substantial gains.

In Table 8, the results of the analysis of the Dailey Oral Language Facility Test (OLFT) scores are presented.

Table 8

Oral Communications Program: Analysis of Oral Language Facility Test Raw Score Data

Grade	Pretest			Posttest			t
	Mean	SD	N	Mean	SD	N	corr
3	10.19	3.79	57	15.05	3.35	56	9.72*
4	11.76	3.98	62	16.65	2.84	62	12.54*
5	12.15	3.82	98	16.43	4.32	98	9.71*
6	14.15	3.39	47	16.52	2.90	46	5.82*

*p .01

The results of these analyses reveal highly significant gains in raw score units between pre- and posttests. The levels of language usage rose, according to the designated criteria employed by the laboratory teachers, at each grade level, to such an extent that, according to these analyses, the third graders' scores were higher at the end of the program than the sixth graders' were prior to participation.

In summary, the test data analyses show that the program was highly successful in achieving concrete gains in pupil performance in the skills of reading, listening, and oral language usage.

Questionnaire Responses

Questionnaires designed to elicit ratings and comments on various aspects of the Oral Communications Laboratory Program were sent to the principals of each of the three participating schools. Through the principals, questionnaires were forwarded to the laboratory teacher and paraprofessional and to three classroom teachers in each school whose pupils attended the Oral Communications Laboratory. A total of thirteen responses were received from the total group of eighteen (72.2%). Without exception, perceptions of the program were favorable.

In Table 9 ratings assigned by respondents to various aspects of the Oral Communications Laboratory Program are presented. The ratings were: 5 = Excellent, 4 = Good, 3 = Fair, 2 = Poor, and 1 = Very Poor.

Of the ratings assigned, the suitability of equipment was rated most highly. The use of videotape equipment was considered to be the "essence" of the program. Some personnel expressed reservations about their expectation for program success in the area of listening; this aspect of the program seemed least clear in intention, and less positive in perceived effectiveness than other aspects of the program.

Respondents were asked to respond to a series of questions asking for their perceptions of program strengths, weaknesses, discrepancies between program design and implementation and special problems, as well as suggestions for

Table 9

Mean Ratings Assigned by Questionnaire Respondents to Program Components

	Mean Rating	N
Suitability of physical facilities	3.92	12
Suitability of materials or equipment	4.92	12
Preparation and guidance provided for project staff	4.31	13
Positive effect on student ability to participate in oral class activities	4.08	13
Positive effect on listening abilities	3.69	13
Positive effect on reading abilities	3.92	12
Positive effect on general academic achievement	4.08	12
Positive effect on attendance	4.17	12
Positive effect on attitude toward self	4.25	12
Positive effect on attitude toward education	4.25	12

change. A narrative summary of their comments is presented in the following sections.

What are the strengths of the program?

Responses included comments such as: The program was "tremendously motivating." "Children loved going to the lab. . . . They expressed themselves more openly and freely." "Pupils accomplished more as they gained self-confidence in themselves."

What are the weaknesses of the program?

Strict time schedules and periods that seemed too brief to complete tasks undertaken were most often seen as program weaknesses.

What differences, if any, have you noted between the way the program was planned and the way it actually works?

Most of the classroom teacher respondents were not knowledgeable about the program plans, and did not respond. Program staff noted no discrepancies.

What special problems have you encountered in the program?

Respondents indicated that there were few problems, "except children always wanted to attend"; "non-eligible students desired to enter lab--it's difficult to tell them they can't come in on a regular basis." "Students other than those assigned wanted to come to the lab." "Many of my students not in O.C. lab were jealous (and rightfully so) of those in the lab. It would be ideal if all students could participate."

What suggestions do you have for changes in the program?

Respondents suggested more linkage between classroom and laboratory teachers and greater involvement with content area instruction coordinated with classroom activities. More sessions per week, more space, and longer periods were also suggested.

A number of respondents added further comments about the program. They were all favorable, and most highly enthusiastic. Many classroom teachers noted that program staff members were exceptionally competent--"cooperative, creative, well-versed. . . ." "The program was a total success and totally worthwhile for the money expended." "The lab encourages 'free to be you and me' and 'Everybody is someone special' in its activities." "The children are anxious to express and talk about what they were working on in the lab" when they returned to the classroom. The children "showed obvious, continual improvement, proving its worthiness."

Student Evaluations

Students were asked by their teachers to respond to evaluative questions about the Oral Communications Laboratory. The responses of students in one of the schools were reviewed by the evaluators. The responses were very revealing, and gave a real sense that the students found the lab activities highly rewarding. Interesting, although most students liked being on camera best, some preferred the listening or backstage activities. "I liked listening exercises the most

because I would not have to worry about being on TV. I did not like being on TV because everyone would stare at me and it was scary." "I liked working with the camera. I never liked to be on camera. I'm shy. I get too nervous and just fade out." These comments indicate that not every student overcame his/her shyness. However, most students did so, and expressed their feelings with unusual enthusiasm, i.e. "I liked a lot of things in the OC Lab because if we made a mistake or did something wrong we did not have to worry about anything. We'd just laugh it all away till it was gone." Most loved being on camera. "Some of the things we did was having a circus and we did commercials. I was a clown and an advertiser for soap powder." "It was fun at times, real fun." One student's response was so descriptive and articulate that it is included in its entirety:

> Have you ever been in a O.C. Lab? Well I have and it was fun. We did things like recording your voice, writing your own script directing and drawing pictures for that story. We also Taped our own circus which had its own exciting moments.
>
> And who could hate it. With so many wonderful things to do. No wonder we could finish it all.
>
> But I admitt I hated a couple of things. Like not being able to read your lines right or not being able to express yourself the way you want because of nervousness and that enough to choke up a guy but you always bounce back.
>
> Now if I was back in O.C. Lab next year I'd like to finish some of my scripts and record them. Especially our science project because I never want to stop doing something creative.

V. CONCLUSIONS AND RECOMMENDATIONS

According to the analyses of test data, of questionnaire responses, and of observation reports, the Oral Communications

Laboratory Program appears highly successful. Children overcame much of their self-consciousness and learned to express themselves before an audience. They learned to work with others on group projects, and to undertake leadership responsibility in team efforts. They learned patience and structure in writing and rewriting scripts, and in rehearsing over and over to improve their work. They learned to give and take criticism more comfortably. They learned how to use words and gestures more effectively to express their emotions and to present factorial information. Recommendations to refine and develop an already excellent program are:

1. The program should be refunded and expanded to meet the needs of students in other schools, under the direction of the current, highly capable coordinator.

2. Care should be taken to insure that teachers are selected for the expanded program who are aware of the importance of listening responsively to students. Emphasis on oral production must be complemented by careful listening by the teacher to provide a model of careful listening for students and to reinforce the use of oral language to express oneself.

3. The existence of unused equipment in schools should be examined for possible use in an expansion of the program.

4. The selection process for students should be refined to assure that students needing the program are included and that students who already possess target skills are not needlessly enrolled in the program.

5. Consideration should be given to grouping pupils according to language needs rather than grade level. There is a wide range of writing/language abilities within most groups. Multi-age grouping would provide leadership opportunities for older children and language models for younger children. Such grouping would also provide the opportunity for more flexible scheduling patterns.

6. More emphasis should be placed on the development of self-concept and self-confidence through self-understanding. This can be accomplished in part through role playing of real life and fantasy situations (i.e., the role playing of inanimate objects reflecting on self--What would your shoe say about you?) and the use of input from students to identify more relevant content. This latter suggestion would probably lead to the inclusion of such areas of high student interest as sports, motorcycles, cars, music, and dance.

7. The number of different student activities should be reduced to allow for more time for reflection. The impression of unrelenting activity and pressure to keep pace with the teacher's crowded agenda was often experienced and might be balanced by quiet time for thinking and discussion.

8. More emphasis on the creative production of oral language is needed.

Non-Public School Program
Function Number E.S.E.A. 5085-81654

FINAL REPORT

Prepared by Dr. Nicholas M. Michelli

I. INTRODUCTION

The non-public school component of the Title I program in District 27 was designed to provide remedial services to eligible students in non-public schools. Five non-public schools were identified as being eligible. Each was to receive the services of a paraprofessional through District 27 Title I funds. One school was to be assigned a paraprofessional five days each week, with the others receiving services two or three days each week.

The paraprofessionals were to assist licensed Title I teachers of mathematics and reading who were to be assigned through the Central Board of Education. These paraprofessionals were to be assigned as assistants to the Board of Education teachers. Under the direction of the teacher the paraprofessionals were to:

1. Work with small groups of children and individual children as needed.

2. Assist the Board of Education teachers in the maintenance of reading records, equipment, and materials.

3. Participate in parent and community conferences, workshops, and open house meetings relating to the reading and mathematics Title I programs.

II. PROGRAM DESCRIPTION

Paraprofessionals were actually assigned to two non-public schools in the district, one five days per week and the second three days per week. Each of these program sites was visited twice; interviews were conducted with the Central Board of Education teacher, the paraprofessional, and the building principal, and the program was observed in action.

Both paraprofessionals are functioning at a high level of competence within the guidelines established. They were observed working with individual students and with groups of up to three students. They had been provided with prescriptions developed by the teachers and were following the prescriptions carefully. Their work usually consisted of reviewing sections of work in which students had continued difficulty, scoring student responses, and entering results in folders for consideration by the teacher. In one case, the paraprofessional worked in the area of mathematics and reading; in the other case, the paraprofessional worked only with reading groups.

The teachers and principal in each school reported satisfaction with the work of the paraprofessional. The paraprofessionals had attended district sponsored workshops and found them valuable.

New materials for this year did not arrive until late in the year--in one case, it arrived on the final day of instruction.

There is no question that the students served in these schools through the Title I program are in need of the services and are receiving appropriate remedial attention.

III. SUMMARY AND RECOMMENDATIONS

The non-public school component of the District 27 Title I program is operating as planned in two of five targeted schools. In those schools where the program is in operation the paraprofessional supported by District Title I funds and the teacher supported by Central Board Title I funds are cooperating to provide effective remedial instruction to eligible students. This instruction, in the areas of reading and/or mathematics, is individualized and utilizes a variety of instructional materials.

Recommendations for the Non-Public School Program are:

1. The component should be refunded with efforts to meet the identified needs in all eligible schools.

2. Wherever possible the aids should be reassigned to the same schools to allow for continuity of program.

3. The ordering process used in obtaining materials for non-public schools should be improved to avoid situations in which needed materials arrive late in the school year.

Bilingual Resource Centers
Function Number E.S.E.A. 5085-81655
Impact Aid Number 5085-88754
FINAL REPORT

Prepared by Dr. Wendy Oxman

I. INTRODUCTION

The Bilingual Laboratory Resource Program, funded under both Title VII and Title I legislation, was designed to provide special educational assistance to those children who require special instruction due to their bilingual backgrounds. A total of four laboratories were designated as Title I laboratories, and four as Title VII laboratories in these schools, oral language in English and Spanish, reading in English and Spanish, mathematics, and cultural enrichment were to be emphasized in the program. Students were to attend the laboratories two or three days per week, depending upon need. In each laboratory, the bilingual teacher and two paraprofessional assistants were to work with groups of fifteen students for 45-minute periods. Staff members were to monitor the skills progress of each individual pupil, provide instruction in areas of need, and maintain materials, equipment, and records.

One teacher was to be assigned as coordinator; the responsibilities of this person were to include visiting the laboratories, providing staff instruction, coordinating program administrative and evaluative information, and conferring with administrators with regard to the program.

Objectives of the program included: (a) improvement of oral comprehension of English; (b) improvement of reading skills in English; (c) improvement of skills in mathematics and, in the Title VII schools, improvement of reading skills in Spanish.

II. EVALUATION DESIGN

In the Title VII schools, the evaluation of the program involved the analysis of test scores in English oral comprehension (Cooperative Primary Test: Listening), English reading (Stanford Early School Achievement Test and Stanford Achievement Test), mathematics (InterAmerican Series Test of General Abilities: Mathematics), and Spanish reading (Language Assessment Battery: Spanish Reading). In the Title I schools, Spanish Reading was not evaluated. Visits to each program site were conducted to provide descriptive information regarding program functioning. Questionnaire responses from program and school staff members were also elicited to provide further evaluative information.

III. PROGRAM IMPLEMENTATION

The bilingual program, which has been functioning in District 27 for a number of years, has become a stable, integrated segment of the school program in most of its host schools. The relatively calm acceptance of the program and its staff members contrasts sharply with the many fears, antagonisms, and resentments expressed by school faculty

members when the program first began. Nearly all bilingual staff members, both teachers and paraprofessionals, have been in their present positions for at least two or three years. The present coordinator, who had previously been a teacher in the program, began her first full year as coordinator.

During the 1977-1978 school year there were four "Title I" bilingual laboratories and four "Title VII" laboratories, as well as several "Tax levy" bilingual laboratories functioning in District 27, served by the same coordinator, and receiving similar services in terms of staff orientation and training, and presenting similar instructional programs.

In this section of the final report, the laboratories will be described without distinctions among them.

Implementing the extensive testing program required for the evaluation of the program and preparing for school-wide celebrations of Puerto Rican Discovery Day, typically, engaged teachers, paraprofessionals, and students during the early part of the fall semester of 1977. However, the instructional programs were organized and functioning in most locations early in the school year. Nearly all laboratories were located in full size, attractively decorated classrooms. Flags, travel posters, and bulletin boards featuring children's work, alphabet, dates, time-telling charts, handcrafts, etc. hung on the walls. In one lab, career workers were featured (medico, oficinista, etc.). Activities observed in the laboratories included singing in both languages and individualized reading, mathematics, and language arts instruction.

A special treat in one laboratory was a visit from an Hispanic policeman, who shared his badge, whistle, and handcuffs with the children, and, speaking to them in both languages, discussed the policeman's job as a public servant and told them how he became a policeman. Teachers generally kept individual folders for each child with records of their work. For example, in one third grader's folder were completed, corrected work papers involving language forms in English that typically are troublesome for Spanish speakers (there are-there is/I am-I'm/ it is-it's-it's raining), language patterns in Spanish (words with c), and mathematics (numeration, tens and ones).

During the spring semester, Mrs. Janet Susi, who is a college professor of Spanish and Linguistics, fluent in Spanish, and knowledgeable about ESL and Bilingual Education, visited each of the program sites. Her record of observations is reported in this section.

School A

The lesson observed was a Spanish language lesson for second graders and began with a song, "Venga a Ver Mi Granja" ("Old MacDonald Had a Farm" in Spanish). One child played the "guiro" and one child held up pictures of the animals mentioned in the song.

The aim of the language lesson was carefully explained to the children. Then followed a review of expressions for talking about weather, using cards and paying careful attention to sound/symbol correlation as the expressions were read

in Spanish. Vocabulary for setting the table was reviewed orally using a felt board and articles of china and flatware. Special work was done on the sounds of B, F, M, N and the sound/symbol correlation. The class ended with a recording of a story, Fraidy Cat. There was a motivating orientation by the teacher and a successful question and answer period at the end of the story. The variety of activities kept the children busily engaged in a real learning situation.

The teacher seemed especially successful in her relations with colleagues in the school and with the parents in the community. The increasing Hispanic population in the school has brought the classroom teachers and the bilingual staff closer together. "Because the classroom teachers need the bilingual staff more, there is more cooperation and general acceptance of the program," the teacher modestly suggested, but her part should not be understated. She organized a Pan American Day celebration for the whole school with the participation of all staff and many parents from the community.

The teacher gave workshops for parents on working with the classroom teacher; understanding the role of homework and other school routines; and ESL classes. Although there is a Family Assistant, parents came directly to her room almost daily to see her and her aide.

The classroom is very attractive and full of interesting and stimulating materials. The teacher's personal warmth and professional competence make for a real learning situation here.

School B

A class of fifth graders was observed engaged in a reading lesson in Spanish. Special attention was given to the diphthongs in Spanish: ae, ai, ao, au, etc. After this preparation, the story was read aloud in Spanish and translated line by line into English. The teacher said she wanted to be sure every child understands what the words mean. The aide worked with two Hispanic English-dominant boys with Spanish surnames who did not want to work in Spanish.

The policy of not hiring substitutes has affected the program in this school. Laboratory teachers must cover regular classes when needed or take some of the students from absent teachers' classes. The "extra" students in the class observed were discipline problems and took an inordinate amount of the teacher's attention, cutting down on instruction for the bilingual lab students. Add to this the noise from the planes taking off from JFK and one must say that it was impossible to see this teacher work at her best potential.

The Math Mobile had come to School B that day and students from the laboratory and the "extra" group were assigned to visit it. Although this is a very worthwhile experience, it must be difficult to coordinate the many special programs offered to the children so that there can be continual development in each area.

The teacher noted that she felt there had been improvement in staff relationships. (Again, a sort of general

acceptance of the Bilingual Lab Program by the classroom teachers and administration.) She has developed a unit on Water Supply with a classroom teacher. She also works closely with the bilingual class teacher. Materials in this laboratory appear to be adequate.

School C

In this laboratory, the group observed was preparing for Mothers' Day. Three poems in Spanish were read aloud by the teacher and the meanings discussed with the children in English and Spanish. Art materials were distributed and each child picked a design and one of the poems to copy in order to make a card for the holiday.

The teacher has as her principal goal reading in English, followed by language arts in English, Math, and reinforcement of cultural identity. She works closely with her aide to carry out the individualization which she feels best meets the students' needs. She mentioned that she has not had too many new materials.

This teacher does not seem to have been too successful in getting parents to become involved in the program.

School D

A third grade Math lesson was observed. The teacher gave individual work to each child and circulated throughout the group checking and answering questions. The lesson ended with "Merengue" practice for the upcoming Dance Festival in

which there is keen competition among the schools. The teacher seemed to have a good rapport with young people but his control in the classroom seemed uneven.

In a conversation after class, the teacher said he felt his work had improved since he was not a "traveling teacher" any more. He added that being in one school enabled him to establish a liaison with the parents and classroom teachers. Indeed, several parents arrived with costumes they had sewed for the Dance Festival. He sees 53 children and has five 40-minute classes a week for each group: two in English Language Arts, two in Spanish Language Arts, and one in Math, using both languages. He has gotten some new materials. Example: The Game Tree Series for supplementary drill on word attack skills.

School E

The testing program was underway in this school so the time was spent in talking with this teacher, who is in her first year in the program.

The teacher has New York State Certification in Spanish and a New York City license in Bilingual Education. She has attended the district workshops in order to familiarize herself with the whole program but was left pretty much on her own to organize a curriculum and make materials for the 80 children she sees three days a week.

Some of her comments follow: She sees the aims of the program as: (1) making the children aware that they are

speaking two languages. She tells the parents to use English or Spanish but asks the children to answer in the one language they are speaking at that time. She says the children seem to understand much more in Spanish than they can say. They tend to answer in English at all times. (2) Improving skills in English. (3) Meeting individual needs in both languages. For the top sections in first and second grades there are two days in Spanish skills. For the third and fifth grades who do not need initial ESL instruction, there is a Spanish "enrichment" program. (4) Supporting cultural identity. There is a growing number of Hispanic children in the school. The parents are very cooperative and are happy with the program. On Fridays, she has an ESL class for parents which she plans to re-schedule at a more convenient time next fall. She works closely with the classroom teachers, showing them the children's work. Classroom teachers stop in the Lab to chat now after she initiated the contact by going around to visit each one last fall.

She has gotten some materials from the District Office but there are not enough reading books in Spanish for this lab. She wished that there could be more sharing of or ideas on materials and would like to have some input for the selection of materials.

The observer returned to see a second grade class doing a lesson in Math. The teacher had identified individual difficulties and she and the aide worked with two small groups

on reading Math problems. The materials in English (and others in Spanish) were teacher-prepared and personalized by using the names of the pupils in the class. The instructors made sure each child understood the English, in this case, as well as the Math concepts.

On that day there was also a third grade reading lesson using Mira y Lee. The teacher used vocabulary cards she had prepared to do oral work for vocabulary building in Spanish. The context was the first day of school and the teacher gave an excellent orientation relating it to the children's personal lives.

The teacher's approach to teaching reflects her natural gifts for working with children and the expertise she has gotten from her training. She is constantly aware of the linguistic problems confronting the students in the Lab as well as the children's need for conceptual development.

School F

The first visit to this school was limited to talking with the teacher and her aide since, during the testing period in the school, there were no classes in the bilingual lab.

The teacher has a New York City license in Bilingual Education. She had taught in elementary school for seven years in Cuba, and has taught in other District 27 bilingual labs.

She sees 142 children four times a week. Some of the groups are very large and there is a wide diversity of

abilities and levels within them. The Spanish instruction is called an "enrichment program" except for the new arrivals who do content work in Spanish while getting ESL instruction from her.

The teacher also remarked that she is given a very small budget for materials and although she did at one time buy some herself she could not continue to do this. There were no books in Spanish for the children to use and they had to copy everything into notebooks in the lesson that was observed.

In this Spanish lesson for fourteen second graders, the sound of R was practiced using vocabulary cards. The children copied the words and read them for sound/symbol correlation (/r/ and /rr/). They generated original sentences using the words which the teacher copied on the board and they in turn copied from the board into notebooks.

School G

The observer visited with the teacher, who had been in charge of the bilingual lab for only one month (replacing a teacher who had taken a maternity leave). She is a licensed Bilingual teacher and has an M.A. in Spanish literature. Her teaching experience in this country ranges from an assistant professorship on the college level to three years in N.Y. public schools. She seems knowledgeable and flexible enough to step into new situations and do efficient instruction.

She sees about 75 children five times a week for 45-minute periods. Twenty-one of these are English dominant children who are in a Spanish "enrichment program" two times a week. The other fifty-four are seen three times a week for reading in English, Math, Social Science, and Science (the last three in both English and Spanish). Instruction in reading in Spanish is given to those children whose parents request it.

The teacher noted her appreciation of the help of her experienced aide. She is well aware that community relations are important and used the time set aside on Friday afternoons for parent ESL classes and for talking to the classroom teachers. She would like to have different kinds of parent workshops in the fall if she is still in this school.

School H

The teacher in the bilingual lab at the participating non-public school also teaches a laboratory in a public school. The observer talked with the principal about the school's participation in District 27's Title VII Program.

The teacher and her aide see forty children three mornings a week and again two afternoons a week. There is a parent assistant two mornings a week. The emphasis in the program is on English as this is what the parents want; however there is also a Spanish "enrichment program". On Wednesday mornings there is an ESL class for parents. The parents are encouraged to visit the school any time they want to.

The principal is very pleased with the bilingual staff assigned to St. Benedict's. She says they have adapted very well to the school's philosophy of education, are resourceful, and use their time effectively in a very professional manner. They, in turn, are treated like regular faculty members and have responded by demonstrating a sincere interest in the whole school program.

School I

The class observed consisted of twelve fifth and sixth graders who were involved in carrying out a unit on the Indians of Latin America. At this time they were painting artifacts they had made out of modeling clay and in other sessions they had made dolls and costumes. The teacher had used a special series of tapes of Indian legends in this unit. There were a great deal of displayed material made by the students.

The aide, who is from Panama, is dedicated and works well with the teacher. She has five years of experience in the school and has learned how to diagnose and help those children who have difficulties in reading and math.

The teacher stated that her goals are to reinforce skills in math and English and to provide cultural identity reinforcement. She agreed that this is the only place that children will learn to read and write Spanish but feels that the reading skill can be transferred to Spanish with little difficulty. She recognizes that writing in Spanish would

require a structured course but says "maintenance is the goal but transition is the reality."

There is adequate equipment here, both "hard" and "soft." The room is attractive and there are interesting booklets made by the children on display. Several errors in Spanish, however, were noted on the teacher-made posters.

On Wednesdays there was an ESL class for parents. The teacher said that the parents were very helpful and willing to work on special projects.

The bilingual lab teacher was born in Ecuador but came to the United States when she was four. Her parents taught her to read in Spanish. She has a provisional elementary certification and is in an M.A. program in Bilingual Education at St. John's.

In this school, the teacher sees about ninety children three times a week for 40-minute periods in her half-time assignment to this school.

School J

The first class in the morning was ESL for four or five new entrants from Santo Domingo. The teacher is American born of Venezuelan parents and her English is fluent. In this class she used the language master to individualize work for each student.

The second class observed consisted of seven third graders for whom a special lesson dealing with Heritage Day had been planned. The children listened to tapes made by the

teacher. One group listened to a tape in English about Santo Domingo and the other group listened to a tape in English about Puerto Rico. At the end of the tapes (presented with no orientation or visual aides or vocabulary practice), the children had to answer questions, dictated on the tapes by the teacher, in writing. This ended in utter confusion on the part of the students who were bothered by spelling as well as content. The content seemed more appropriate for fifth graders.

Realizing that this activity was not working, the teacher abandoned it and talked with the two groups in both Spanish and English about the material on the tapes. There was a personalization of experiences and at one point there was good oral communication on the part of the students. Unfortunately, both languages were indiscriminately mixed.

Then the teacher read Jose Marti's poem, "Guantanamera." The children were asked to sing the song based on the poem and to go on and sing "En Mi Viejo San Juan." Some children knew one or the other song but no general participation occurred. The class ended with a "Caribbean Breakfast" provided by the parents: huevos y tostadas, tostones, tortilla de maiz, frijoles fritos, and pan dulce.

Four second graders came in for their lab and joined the breakfast group after which they discussed the flags of different Hispanic nations with the teacher; selected the one they wanted to draw, and set about copying a flag for display in the classroom.

The teacher had really prepared appropriate activities for Heritage Day and had gone to great lengths to provide a variety of pleasurable experiences.

The teacher sees about sixty-five children three times a week for 40-minute periods and she seems to have a good rapport with youngsters and to provide the cultural reinforcement which is very important in this program. The room is attractively set up into "centers": Math, Reading, Centro de Musica, Centro de Artesania. Work done by the children is displayed around the room. There seems to be an adequate supply of equipment and books.

The classroom aide is very dedicated and has volunteered to take an active part in the breakfast program for the children.

On Friday afternoons, parents are invited to come for an ESL class but only one is coming. The attempt to get community involvement in school activities has not been very successful.

In this school, the teacher is inexperienced in elementary and bilingual education. She appears to need an understanding of elementary school curriculum and training in the particular theory and methods of bilingual education, including linguistics.

Analysis of Questionnaire Responses

Questionnaires were distributed, through the principals, to each of the eight schools in which the Bilingual Program

had been organized. Each principal was asked to complete the form, and to ask for responses from the bilingual teacher, paraprofessional, and three classroom teachers whose children attended the laboratory in his/her school. Responses were received from a total of nineteen persons in seven of the schools.

In Table 10 the means of the ratings assigned by questionnaire respondents are presented. The rating scale used was 5 = Excellent, 4 = Good, 3 = Fair, 2 = Poor, 1 = Very Poor. An option was provided for "not applicable"; some respondents used this option to indicate that they did not know. Means were based only on the ratings assigned.

Table 10

Ratings Assigned by Program and School Staff Members

	Mean Ratings	Number of Ratings
1. Suitability of physical facilities	4.06	16
2. Suitability of materials and equipment	3.50	16
3. Preparation and guidance for staff	3.73	15
4. Positive effect on:		
a. ability to speak English	3.70	17
b. ability to speak Spanish	4.19	16
c. ability to function in ESL	3.82	17
d. verbal achievement--English	3.63	16
e. verbal achievement--Spanish	3.71	14
f. mathematics achievement	3.76	17
g. academic achievement	3.78	18
h. attendance	3.65	17
i. attitude toward self	4.65	17
j. attitude toward education	4.11	18

Analyses of the data in Table 10 reveals that the program was perceived as most effective in improving students' attitudes toward themselves. The program was also viewed as "good" in its effect on students' attitudes toward education and in improving their ability to speak Spanish. Physical facilities allocated for the program were also rated, on the average, as "good."

Respondents were asked to answer a series of questions about their perceptions of the strengths, weaknesses, problems, etc. of the program. Their responses are summarized in the following sections.

What do you see as the strengths of the program?

Principals, bilingual staff members, and classroom teachers all saw as the program's strengths, the "fostering of positive feelings about self and culture." "Pride in background and heritage." The conscientiousness of bilingual staff members was also cited as a program strength.

What do you see as the weaknesses of the program?

As program weaknesses, two principals felt that more materials and cultural activities should be secured under the program. Another felt that there was too great an emphasis on Spanish, while another, whose lab teacher was assigned on a part-time basis, wanted a full-time assignment.

Among bilingual staff members, poor orientation, supervision, coordination, lack of consultation with teachers on

ordering of materials, and bilingual staff meetings that were not held on schedule or failed to cover topics as proposed were cited. Classroom teachers who responded were divided in their attitudes toward the program. Some felt strongly that the children were missing important classroom work or that they were held back in English while in the lab, while others said that the program had no weaknesses that they could perceive.

What differences, if any, have you noted between the way the program was planned and the way it actually works?

All the bilingual or school staff members felt that the program functioned as planned.

What special problems have you encountered in the program?

About half of each group of respondents noted special problems. Principals noted problems with scheduling and movement of children, and bilingual staff noted asspecial problems apathy or negative attitudes toward the program on the part of colleagues. Several classroom teachers complained of interruptions of "classroom procedures" when the children left for the laboratory, or commented that the participating children missed out on classroom work or other laboratory work by their assignment to the Bilingual Laboratory.

What suggestions do you have for changes in the program?

Principals gave no suggestions for change, other than to request more of the same--additional staff, materials, etc.

Bilingual staff members requested improved staff orientation regarding goals and objectives, fewer subjects and/or grade levels to teach. Among classroom teachers, suggestions were greater concentration on English--particularly "spoken English and English language usage," along with more linkage with classroom goals and expectations and more consultation regarding scheduling.

Respondents were asked for general comments in addition to the answers to questions. Several respondents commented that the bilingual staff members were exceptionally able, and that the children "anxiously await the time for 'Bilingual,' go so willingly, and breathlessly tell me what they've learned upon their return." The children are "eager to go . . . their responses are enthusiastic and cheerful." On the other hand, some teachers' comments were not so positive. These comments seem to be related to lack of knowledge about the program in District 27, or about the nature and goals of bilingual education, or both.

Analyses of Test Scores

Students in the Bilingual Program took a number of tests in the Fall and Spring to determine whether the objectives of the program had been met. Improvement in reading skills in English was assessed by analyzing the results of the pre- and post-administration of the Stanford Achievement Test (SAT). Form A was administered in the fall; Form B in the spring.

Grade 1 received the Stanford Early School Achievement Test (SESAT), Level I; Grade 2: SESAT, Level II; Grade 3: SAT Primary I; Grade 4: Primary II; Grade 5: Primary III; Grades 6 and 7: Intermediate I. Improvement in mathematics was assessed by analyzing the results of the pre- and post-administration of the InterAmerican Series: Test of General Abilities: Mathematics Subtest, in the Dominant Language.

English listening comprehension was evaluated through analysis of the results of the administration of the Listening subtest of the Cooperative Primary Test, Level 12A for grades 1-3 and Level 23A for grades 4-7. Students enrolled as Title VII participants also took the LAB Spanish reading test.

Scores were analyzed for those students for whom both pre- and posttest scores were submitted. Although a total of 1,248 sets of pre- and/or posttest scores were available, only 575 pairs of scores were identified for pre-post analysis.

In Table 11, the mean raw scores on the Stanford Early School Achievement Test (SESAT) for Grade 1 are presented. Correlated t tests indicate significant growth in the area of Letters and Sounds, but no significant improvement in Auditory Comprehension was revealed when assessed in this manner.

Table 11

Analysis of Grade 1 SESAT (Level 1) Scores

	Pretest			Posttest			Differences	N	t corr.
	Mean	SD	N	Mean	SD	N			
Letters & Sounds	20.29	6.03	86	23.54	4.95	86	3.24	86	6.29*
Auditory Comp.	17.61	5.28	83	18.95	5.73	83	1.34	83	1.96

*$p < .001$

Table 12 presents the raw score means for Grade 2 on the four subtests of the SESAT. Correlated t tests indicate highly significant growth in all areas of English Reading tested.

Table 12

Analysis of Grade 2 SESAT Scores

	Pretest			Posttest			Differences	N	t corr.
	Mean	SD	N	Mean	SD	N			
Letters & Sounds	32.24	7.10	116	33.81	6.43	116	1.59	116	2.98*
Auditory Comp.	15.04	4.74	115	16.73	4.57	115	1.69	115	3.27**
Word Reading	43.98	11.96	115	47.57	11.23	115	3.59	115	5.28**
Sentence Reading	19.50	9.19	114	25.17	9.07	114	5.67	114	7.30**

*$p < .01$
**$p < .001$

In Table 13, a "Model A" type of analysis of each of the SESAT scores for first and second grades is presented. Because the students were tested out-of-level on the SESAT, it was not deemed appropriate to base percentiles on separate norms for the pre- and posttests. Percentiles, therefore, were based upon end-of-year norms for the previous grade: Grade 1 percentiles were based on end-of-kindergarten norms; Grade 2 on end of Grade 1 norms.

According to the Model A type analysis, first graders did better than expected on Letters and Sounds; second graders did better than expected on Auditory Comprehension and Word Reading.

In Table 14 raw score means and analyses are presented for grades 3-7 on the Stanford Achievement Test Reading subtests of Vocabulary, Reading Comprehension, and Word Study Skills. Third grade students improved significantly in Vocabulary and Reading Comprehension; fourth grade students improved significantly on all three subtests; fifth grade students improved in Reading Comprehension and Word Study Skills; and sixth grade students improved significantly in Reading Comprehension.

Table 15 presents the grade equivalents, percentiles, and scaled scores corresponding with the raw score means shown in Table 14.

Table 13

SESAT: Grades 1 and 2 Percentiles and Scaled Scores Corresponding to Raw Score Means

	Raw Score	%ile	Scaled Score	Raw Score	%ile	Scaled Score	r	t corr.
				Grade 1				
Letters & Sounds	20.29	60	73	23.54	66	82	.63	4.47**
Auditory Comp.	17.61	31	96	18.95	36	99	.47	1.30
				Grade 2				
Letters & Sounds	32.24	23	81	33.81	28	82	.64	-.06
Auditory Comp.	15.04	14	100	16.73	24	109	.27	3.69**
Word Reading	43.98	28	110	47.57	36	113	.81	2.40*
Sentence Reading	19.50	46	114	25.17	58	117	.59	1.63

*$p < .05$
**$p < .01$

Table 14

Analysis of Stanford Achievement Test Scores in Reading, by Grade

Grade	Pretest Mean	Pretest SD	Posttest Mean	Posttest SD	N	Differences	t corr.
			Vocabulary				
3	20.56	6.43	23.17	5.96	54	2.61	3.53**
4	21.10	5.30	23.59	7.72	68	2.49	2.49*
5	20.67	7.89	22.03	7.54	39	1.36	1.35
6	20.48	6.69	19.00	7.51	25	-1.48	-1.39
7	17.20	7.11	16.40	5.37	10	- .80	- .49
			Reading Comprehension				
3	61.09	22.92	70.50	17.86	54	9.41	4.50**
4	62.37	21.32	69.40	19.29	70	7.03	3.39**
5	38.18	12.12	41.32	14.14	38	3.13	2.26*
6	25.80	6.80	31.44	11.09	25	5.64	3.16**
7	27.20	8.01	28.90	11.27	10	1.70	.76
			Word Study Skills				
3	46.04	12.91	47.54	10.73	54	1.50	1.38
4	44.17	12.73	47.24	11.26	70	3.07	2.44*
5	27.32	11.88	33.14	13.52	37	5.81	4.82**
6	29.48	12.15	30.48	10.44	25	1.00	.52
7	30.20	10.12	28.90	11.00	10	-1.30	- .51

*$p \leq .05$
**$p \leq .01$

Table 15

Stanford Achievement Test Grade Equivalents, Percentiles, and Scaled Scores Corresponding to Raw Score Means

Grade	Raw Score	GE	%ile	Scaled Score	Raw Score	GE	%ile	Scaled Score	Test Level
					Vocabulary				
3	20.56	1.4	23	106	23.17	1.7	18	109	Primary I
4	21.10	2.5	31	124	23.59	2.9	23	131	Primary II
5	20.67	2.8	23	131	22.03	3.2	25	133	Primary III
6	20.48	3.9	20	152	19.00	3.6	11	139	Intermediate I
7	17.20	3.2	18	134	16.40	3.1	8	132	Intermediate I
					Reading Comprehension				
3	61.09	1.9	42	116	70.50	2.2	24	118	Primary I
4	62.37	2.6	39	128	69.40	2.9	29	130	Primary II
5	38.18	3.3	30	135	41.32	3.6	14	138	Primary III
6	25.80	3.4	22	135	31.44	4.3	23	146	Intermediate I
7	27.20	3.6	28	138	28.90	3.9	20	141	Intermediate I
					Word Study Skills				
3	46.04	1.9	42	104	47.54	2.0	19	107	Primary I
4	44.17	2.7	46	124	47.24	2.9	32	129	Primary II
5	27.32	3.1	35	128	33.14	3.7	30	138	Primary III
6	29.48	2.9	33	136	30.48	3.7	31	138	Intermediate I
7	30.20	3.7	28	137	28.90	3.5	28	135	Intermediate I

In Table 16 "Model A" analysis of the test results presented in Table 15 are shown. "Predicted" scaled scores were generated by converting raw scores to percentiles on predicted percentiles--the Model A prediction is that students maintain the same relative position in the normative group) to predicted raw and then scaled scores on posttest norms. Correlated t tests were then computed comparing predicted posttest scaled scores with actual posttest scaled scores.

According to the analyses presented in Table 16, none of the groups showed significant gains over expectation in any area; indeed, only Grade 6 scores were higher than expected.

Table 17 presents the raw score means and analysis of the mathematics tests administered in Grades 1-6.

The results of the analyses presented in Table 17 indicate that, with the exception of the small sixth grade group tested, students at each grade level gained significantly in mathematics.

Table 18 presents raw score analyses of the results of the Cooperative Primary Test: Listening Comprehension. Students in first and second grade improved significantly; however, these gains were not observed above the second grade level.

Table 16

Model A Analyses of Stanford Achievement Test Scores in Reading

Grade	N	Predicted Posttest			Actual Posttest		
		Percentile	Raw Score	Scaled Score	Scaled Score Mean	r	t corr.
				Vocabulary			
3	54	23	24	112	109	.68	-1.27
4	68	31	24	132	131	.26	- .52
5	39	23	26	142	133	.70	-3.32
6	25	20	23	149	139	.73	-3.09
7	10	18	19	139	132	.73	-1.32
				Reading Comprehension			
3	54	42	80	125	118	.80	-3.74
4	70	39	77	134	130	.64	-1.59
5	38	30	54	149	138	.75	-4.40
6	25	22	28	141	146	.58	1.24
7	10	28	33	149	141	.81	-1.80
				Word Study Skills			
3	54	42	54	120	107	.79	-6.77
4	70	46	54	140	129	.63	-3.78
5	37	35	35	142	138	.82	-1.86
6	25	33	35	146	138	.67	-2.24
7	10	28	29	135	135	.74	0.00

Table 17

Analysis of IAS Test of General Ability:
Mathematics Subtest

Grade	Pretest Mean	Pretest SD	Posttest Mean	Posttest SD	N	Differences	t corr.
1	8.15	3.26	12.15	5.75	73	4.00	5.79**
2	7.44	3.62	9.75	4.44	105	2.31	6.11**
3	11.44	4.53	13.36	4.54	45	1.91	2.56*
4	11.24	4.01	13.56	3.99	72	2.32	4.87**
5	12.42	4.11	14.72	4.09	43	2.30	3.87**
6	18.17	13.95	17.58	4.22	24	-.58	-.20

*$p < .05$
**$p < .001$

Table 18

Analysis of Cooperative Primary Test:
Listening Comprehension

Grade	Pretest Mean	Pretest SD	Posttest Mean	Posttest SD	N	Differences	t corr.
1	20.62	6.48	28.08	5.35	71	7.47	10.88*
2	26.87	6.51	32.43	5.94	99	5.57	9.83*
3	31.55	14.66	35.10	6.28	49	3.55	1.76
4	28.30	10.37	27.85	10.69	74	-.45	-.29
5	29.23	7.03	27.75	6.14	47	-1.49	-1.58
6	33.60	4.09	30.08	5.08	25	-3.52	-3.36

*$p < .001$

Assessment of Spanish Reading Skills

Spanish language tests were given to those students who were below established criterian levels in English in the spring of 1978. The results of the Reading subtest in Spanish on the Language Assessment Battery are reported in Table 19. However, pretest scores were not available for analysis.

Table 19

Means and Standard Deviations of LAB Spanish Reading Scores

Grade	Mean	SD	N
1	3.91	2.52	22
2	4.10	3.41	31
3	8.23	4.47	26
4	10.08	7.63	13
5	15.43	10.28	21
6	19.02	8.77	42
7	20.53	5.85	17

Summary, Conclusions, and Recommendations

The Bilingual Laboratory Program in District 27, funded under Title I and Title VII, has been implemented to serve the needs of non-English speaking and bilingual pupils in the areas of English oral comprehension, reading, and mathematics. In the interest of improving general academic achievement, particularly in reading and mathematics, it also assists children in the development of security, confidence, and pride in themselves and their cultural heritage

through Hispanic cultural and linguistic activities. The Bilingual Program functions in several schools, some designated as Title I, others as Title VII. In still other schools, similar laboratories function as "Aspira," tax-levy programs. In addition, there are a number of Bilingual classes in the district for newly arrived students, as well as the beginnings of bilingual programs for students who speak foreign languages other than Spanish. The teacher assigned as coordinator serves as bilingual coordinator for all the varied bilingual programs in the district.

Analysis of data generated from observational reports and questionnaire responses indicate that the Bilingual Program is seen as providing an important service to students with special needs, particularly in developing positive feelings about themselves. Students enjoy attending the labs, and show significant improvement in most areas of English language and reading skills and mathematics, although their growth in these areas above the second grade level is not as rapid as predicted relative to that of monolingual normative groups.

The Bilingual Program, in the current school year, can be characterized by the term "variability." The assumptions underlying its implementation, its specific goals, its organizational patterns and activities, etc. are different from one school to another, depending to great measure on the theoretical knowledge and practical instructional skills

of the teacher. According to the bilingual observer,

> all of the teachers are interested in and concerned for the cognitive and affective development of the children who come to the Bilingual Labs. However, it was evident from the observations that those teachers who have had current training in the areas of bilingual education, teaching English as a second language, and linguistics, do the best job of instruction. . . .
>
> The para-professional classroom aides are a positive part of the program. All of them are conscientious and cooperative. They should be given more opportunity to get regular in-service training in the area of bilingual education.

The primary recommendation, then, is to improve staff orientation, in-service training, and supervision.

It should be noted here that several bilingual staff members themselves, in interview and questionnaire responses, felt that improvement was needed in these areas. In addition to diversity in teacher preparation, the distribution of materials seems to be uneven. Some teachers are more resourceful than others in getting and using enough of a variety of classroom realia and equipment, and some labs have, over the years, been supplied with more than others. It would seem beneficial to offer more in-service workshops to acquaint teachers and aides with what is available, to give demonstrations on how certain materials might be used, to get input from the teachers themselves on materials to order, and provide for sharing among them.

There seems to be a shortage of materials for reading, math, social studies, and science in both languages in some of the labs.

The problems cited, in staff training, program definition, and materials distribution lead to a strong recommendation for additional professional perscnnel assigned at the district level to assist in bilingual program coordination. The scope of the District's current effort in the area of bilingual education, with its theoretical concerns, community involvement, diverse funding sources, complex demands in training, curriculum and evaluation require more attention than is presently available.

Further recommendations involve even greater diversity, in the sense of tailoring the program to meet individual needs and to improve program evaluation procedures which would require even greater supervisory assistance to teachers.

The problem of "too many tests" continues to afflict the Bilingual Program. With reading and listening tests in English, math tests, and Spanish tests for Title VII pupils, teachers and students feel the tests as intrusions on teaching time. It is recommended that, if permissable, English listening, math, and Spanish reading tests be administered only to those pupils deemed in need of those particular skills, and that in those schools where individualization has not been implemented, lessons be designed to improve specific skills in specifically diagnosed areas for particular pupils. It may be necessary to prepare separate proposals for funding of distinct program components (i.e., Bilingual Mathematics, ESL, etc) for this purpose.

Related to the problem of "too many tests" is the problem of "too many things to do in too little time," which is, again, a perennial problem in this program. Focusing in more narrowly and more systematically on the needs of bilingual students and the needs of individuals in particular is, therefore, a related recommendation. Recommendations offered in the interim report, which were related to individualization, are incorporated herein, as they seem no less appropriate at this time.

a. Although individual folders are maintained for each participant, it is not always apparent that distinctive assignments are made for all children on an individualized basis. It might be useful to set up a formal system of diagnosis and prescription of particular needs, in consultation with each child's classroom teacher.

b. Language arts instruction in English should, in the bilingual program, focus on particular areas of difficulty for Hispanic students. This was not true in all laboratories; although instruction seemed appropriate for the students, it did not go beyond that which the classroom teachers can do. It is recommended that a workshop (or more, if necessary) be organized to provide in-service training in intermediate level English as a Second Language and/or comparative linguistics.

c. A closer system of linkage between the bilingual staff and regular faculty should be established. It would

seem very useful for bilingual staff members to visit the regular classrooms to see their students in interaction with teacher and peers on those occasions when field trips or other activities interfere with the laboratory schedule.

Each of the recommendations suggested relates to the idea of focusing in more narrowly and more systematically on the needs of bilingual students and the needs of individuals in particular under an improved staff training program. It is important that the bilingual teachers' special expertise be used efficiently and not in such a way as to duplicate or substitute ineffectively for the work of the classroom teacher or that of other laboratory teachers.

Mathematics Resource Laboratories
Function Number E.S.E.A. 5085-81656
Impact Aid Number 5085-88755
FINAL REPORT

Prepared by Dr. Paul Longo

I. INTRODUCTION

As a continuing part of its efforts under Title I auspices, Community School District 27 in Queens organized a program of remedial instruction in mathematics. The program was conducted in a number of Mathematics Resource Laboratories located in selected schools in the district which have Title I eligible pupils. The purpose of these laboratories was to provide highly individualized instruction in math. The pupil population serviced were those who meet the eligibility requirements established under Title I and whose math skills had been demonstrated to be at least one year below grade level as measured by a standardized test. The program of remediation put forth by the district is best described in its written proposal:

> The Mathematics Resource Laboratories shall provide diagnostic-prescriptive individualized instruction in Mathematics for all eligible pupils. All eligible pupils will be tested with the Stanford Diagnostic Mathematics Test using the appropriate level for each grade. Individual prescriptions will be developed from summarizing results of the diagnostic instrument. The Instructional Placement Report will be maintained. Mathematics Laboratories will be self-contained with multi-media materials and equipment which will provide for the differences and requirements of each pupil's aptitude, skill knowledge and interest. A learning station approach will be implemented. Labs will be housed in permanent rooms that can be identified, staffed, and

> supplied as permanent additions to the regular school operation.
>
> Each child will receive a minimum of 135 minutes, and a maximum of 180 minutes in 45 minute periods per session. The teacher and one educational assistant will work with 5 groups of children per day in each school. Each group will consist of 15 target participants. Records to be maintained include . . . Diagnostic and prescriptive data, attendance records, Instructional Placement Report, pupil profile charts and activity data.

Thus, the intent was to provide a program of remediation that diagnoses the need of each pupil through the use of the Stanford Diagnostic Arithmetic Test (SDAT), which was to be administered to all potential participants at the beginning of the school year. An individualized set of prescriptions to remediate the needs diagnosed would then be drawn up for each student in the program. An ongoing record of pupil progress would also be maintained throughout the year, with the diagnosis being updated and changed as skills are mastered. The major objective was to help students perform at grade level or above in mathematics.

In the initial part of the school year, program staff is occupied with selecting participants, organizing them into instructional groups, and eventually testing them on the SDAT. The administration of this test has multiple purposes in the program. It is used to produce grade level scores, thus serving as a screening device to determine which pupils will gain entrance to the program. It also serves as a pre-test score which will be compared to a post-test administered at the conclusion of the program to

determine pupil progress. Finally, as mentioned earlier, the test is used as a diagnostic tool by teachers to help them develop an appropriate remedial program for each pupil.

It was expected that the Mathematics Resource Laboratories would serve approximately 2,600 pupils during the 1977-1978 school year. The number of total pupils suggested for each school resulted in an average group size of anywhere from 16-19, an increase over last year, when groups generally consisted of from 12-15 pupils. Since the overall structure of the program and its operational expectations went unchanged, the increase in class size was apparently not expected to affect the way classrooms functioned. The emphasis on individualization remained the same despite the increases.

II. PROGRAM ORGANIZATION

The program offered by the district to help improve math skills contained three separate and distinct components. By far the largest component was the Mathematics Resource Laboratories previously mentioned. These labs were set up in fourteen elementary schools and two junior high schools. A second component consisted of two mobile units designed to offer children instruction in the area of industrial arts. Two such units were to be provided, one servicing schools on the mainland and the other functioning in the Rockaway section of the school district. The units serviced a different school each day of the week so that a total of ten elementary

schools were expected to be involved in this phase of the program.

The third component was the smallest, involving just two junior high schools. This was planned as an experimental program and, unlike the two components mentioned above, it represented a totally new concept which was being implemented for the first time. This project centered around the organization of mathematics laboratories which used computer programming to generate individual prescriptions for students.

The Mathematics Resource Laboratories and the mobile units, though functionally operating as separate entities, were intended to coordinate their planning so that each contributed to the instructional effectiveness of the other. The mobile unit was conceived of as a pragmatic extension of the learning that was taking place in the math labs. It offered the opportunity to apply the skills learned in the math lab to practical situations involving the construction of industrial arts projects. Since the two programs shared the same pupil population, instructors could meet to determine what types of projects would best accomplish this purpose. The joint planning was intended to result in a more integrated instructional effort and a mutual reinforcement of the skills being taught in both programs.

In the written proposal submitted by the district, the schools that were expected to be serviced by this program as listed and a terse description of its operational intent is offered:

Mobile Unit P.Ss. 123, 96, 155, 124, 223 (Mainland), 42, 105, 106, 197, 183 (Rockaway)

The Industrial Arts Mobile Units will serve as a pragmatic extension for all elementary laboratory participants. Planned Industrial Arts projects will help children gain concept of size, use numbers, discover the value of accurate measuring.

The practical applications will help reduce the level of abstraction, reinforce the students' feeling of accomplishment; thereby developing a more positive attitude toward learning which will lead to a greater mastery of math skills.

Articulation with Laboratory Teachers and Mobile Unit Teachers will insure construction of mathematics projects and aids that can be used in the pupils' own math skill reinforcement activities.

As indicated, each mobile unit was to service one of the five schools assigned to it each day of the week. Once the unit was in place for the day, pupils would be brought to it from the building on a regular 45-minute schedule. The students were to engage in the construction of a variety of different projects during the year which would call upon their use of measurement and computational skills. Each unit was to be headed by a certified industrial arts teacher who would be aided in his efforts by an aide who also drove the vehicle. No set number of project activities were designated in advance but latitude was given to adapt planning to student and program needs as they developed through the school year.

The Mathematics Resource Laboratories were similarly designed to run on a 45-minute schedule. The proposal called for a minimum of three such periods and a maximum of

four for each instructional group organized. In practice, the pattern was for each group to meet for three 45-minute periods per week. The labs were staffed by one teacher and one educational assistant. Of the sixteen math labs involved in the program this year, all but one operated on a full-day basis. The size of instructional groups was set at fifteen. The teaching methodology implied in the proposal description was clearly one which called for the use of a variety of manipulative materials in what could be considered an activity-oriented approach to learning. The use of multimedia supplies and equipment was clearly intended and a learning station approach specified.

In general, then, teachers in the math labs were responsible for setting up a learning environment that was highly individualized while providing the learner with ample opportunity to improve specific skills through the use of a variety of instructional media. Once a diagnosis had been made, teachers were expected to provide prescriptions that were tailored to the specific needs of each child. The individualized curriculum prescribed necessitated the use of a great variety of equipment, intelligently laid out in the classroom and skillfully employed by the teaching staff. In such a program there is a need for careful planning and for compiling an accurate record of student progress. The latter is maintained in the form of a prescriptive profile which is constantly updated. From such records, an accurate picture

of the pupils' diagnosed needs and the type of activities they have engaged in to remediate these needs, should be clearly visible.

While the programs conducted in the math labs and the mobile units were expected to be interrelated, the experimental program designed for the two junior high schools was not. This component utilized an approach that was similar to the Mathematics Resource Laboratories but relied upon computer programming to generate prescriptions for individual pupils. Once needs had been diagnosed they were fed into computers which matched these needs to predesigned instructional programs. The overall design of the program was described in the district proposal in the following manner:

> The Title I Mathematics Resource Laboratories will use Prescription Learning for total individualization in Mathematics instruction. All eligible pupils will be tested with the Stanford Diagnostic Mathematics Test using the appropriate level for each grade. The individual prescription is developed through computer matching of learning deficiencies with corrective learning programs to procedures. A printout is provided for each pupil indicating pretest and posttest scores, materials worked on, and time spent in the laboratory. The laboratory will be self contained with multi-media, the necessary hardware and software to carry out the individual prescriptions. Laboratories will be housed in permanent rooms that can be identified, staffed and supplied as permanent additions to the regular school operation.
>
> The 20 station Title I Lab will service 125 pupils daily; five times per week. Pupils in the laboratory will work on their deficiencies and areas of need individually and in small groups with the teacher and paraprofessional.

The general intent of this program was functionally the same as that of the math labs. It sought to employ individualized instructional techniques and was also founded upon a diagnostic-prescriptive approach to learning. Operationally, the program even functioned in a similar manner. Its success was dependent upon the ability of teachers to use a variety of instructional materials to remediate mathematics deficiencies. A learning station approach was anticipated and the implied methodology that was to be used by teachers did not differ significantly, if at all, from that used in the regular math labs.

The major difference in approach was the use of computers to provide the prescriptions for pupils, rather than teachers. The presumed advantages were not clearly stated but it may be assumed that the predesigned remedial program, which was matched to each diagnosis, was considered to be more skillfully and thoughtfully designed. The program may well be based on a broader sample of student experience and be more thorough in its use of a carefully staged approach to skill building. One clear advantage is that the burden of planning an individualized program of remediation is not as heavy on teachers and they may be freed to consider student needs in more specific detail. The reduction in planning responsibility for teachers may also have been the reason for the increase in group size for this program over that of the math labs. The experimental labs were to function with

instructional groups of twenty-four students. Pupils were to be grouped according to specific instructional needs. These needs would be identified through a series of specially developed diagnostic instruments which would pinpoint deficiencies or disabilities in the mathematics skills of the project participants. Teachers were responsible for a continuous assessment of the progress students were making on the computer-assigned programs of remediation.

III. EVALUATION OBJECTIVES AND PROCEDURES

The major goal of the total program of remedial aid described above was "to improve the mathematics skills of participating children." The evaluation design created to measure how effectively this objective was met represents a straightforward and direct approach. It consists of two main elements which were presented in the proposal as follows:

Area of Behavioral Change	Degree of Change	Reference
To improve concepts, computational and problem solving skills of the participating children.	Statistically significant change pre- to posttest (p .05), Sandler's A Test	Stanford Diagnostic Mathematics Test (1976). Appropriate level for grades 2-8.

1. Sampling Plan: a. Total population of participants.
   b. No Multiple treatments expected.

2. Instruments and Data Collection:

   a. Stanford Diagnostic Arithmetic

   Testing Dates: Pretest October 1977; Posttest April 1978

3. Data Analysis: a. Descriptive: A narrative on program functioning will be used.

The design offers the use of the SDAT as a means of objectively measuring participant growth in conceptual, computational, and problem-solving skills in mathematics. The test was administered on a pre- and posttest basis in October and April of the school year. A comparison of the two tests was used to measure the average growth experienced by pupils in the program. Differences in the two sets of scores were analyzed through the use of Sandler's A test, a procedure which is used to determine if the growth recorded is statistically significant. If differences noted are significant, that is, the progress made can be statistically demonstrated as beyond that which could normally have been expected when compared to previous progress, then the results can be attributed to the intervention of the program of remediation.

A second evaluative procedure called for a descriptive narrative of program functioning. This narrative was to be based upon a regularly scheduled series of visits to program sites made by an outside observer at periodic intervals during the school year. Four sets of visits to each math lab were planned. The purpose of these visits was twofold. The observer was responsible for determining if the general guidelines set forth for the program were being met in terms of the way it has been set up and organized. The second aspect included an analysis of program performance. This focused on teacher methodology, use of materials, and

attention to administrative details. The narrative was to draw upon data collected from classroom observation and conferences conducted, whenever necessary, with supervisory, administrative, and instructional personnel connected with the program.

It should be noted that the evaluative procedures described above were used to measure how well any of the math labs had achieved their objectives. This included the regular Mathematics Resource Laboratories as well as the experimental program in the two junior high schools, though the narrative report for the latter will be given separately. The impact of the mobile units was not directly measured through the use of an objective instrument such as a standardized test. A narrative description, based on a regular series of observational visits, is offered instead. The same overall method of evaluating program organization and performance and comparing them to the guidelines set forth in the district proposal was employed in this evaluation.

IV. ADMINISTRATION AND IMPLEMENTATION

Classroom Organization

There is little question that the Mathematics Resource Laboratories were organized along the lines intended in the proposal. The personnel staffing the program were generally experienced and seemed well informed as to their responsibilities and duties. They appeared to have a clear conception

of the tasks set forth in the guidelines. Thus, the physical arrangement of classrooms reflected the style of instruction called for. Learning stations had been set up around the classroom in the manner suggested. Materials were laid out for student use and were available in sufficient supply to promote the type of individualized instruction which the labs had been organized to promote.

Based upon a series of four visits to each site, it would appear that the labs were not only organized as planned but were also basically performing as intended. There was an emphasis upon individualization, though it was not as complete as the design appears to suggest and a significant amount of work continued to be performed in groups. Nonetheless, considerably more individualized attention was managed than can possibly be offered in the classroom. In addition, the attention that was offered seemed far better suited to the needs of students, a result of the emphasis upon a prescriptive response to diagnosed weaknesses or disabilities.

There was much evidence that a wide variety of media were being used in the instructional program, as suggested. Pupils appeared familiar with the use of a great many of the manipulative aids available. This familiarity extended to their ability to employ many of these materials usefully on their own, something that would not occur without previous instruction and the proper educational emphasis having been provided.

Overall, it can be stated that in terms of classroom organization and the management of instruction, the math laboratories did function in the manner intended. Learning centers were set up, an array of manipulative materials and educational aids were laid out for use and there was an emphasis upon individualization. This description can be generally applied to all the math labs. Though the skill employed in exploiting the potential of the structure varies, there appeared considerable uniformity in the application of the design and in the general level of effectiveness attained.

Facilities

The district did an excellent job of providing good physical facilities for the conduct of the program. Almost without exception, spacious classrooms had been made available in each of the buildings. This was an immense advantage to a program that is based upon a high degree of individualization and calls for the use of a wide variety of materials. It afforded the opportunity for staff to more fully realize their goals. Learning centers could be properly set up and educational aids set out in such a way that their effective use was greatly enhanced while potential difficulties with discipline were proportionately reduced.

An additional result of providing sufficient space was that, with rare exception, most teachers had a great variety of equipment and materials out and available for use by

students. They were not forced to store materials. As a direct result, there was a greater degree of choice available, not only in the assignment of materials to pupils but in the range of prescriptive possibilities for each student. While limitations of teacher skill and time still have not always allowed the fullest use of what is available, the district has ably managed to avoid allowing a lack of space to confine the potential influence of the program. In only one junior high school did this remain as a problem. There, the math lab had been assigned as a homeroom and teachers were deprived of the opportunity to properly organize activities for the day. This apparently unnecessary limitation has, fortunately, been the rare exception rather than the rule.

Materials and Equipment

In terms of both variety and the total amount of equipment made available, the math labs were very well supplied. Unlike the new experimental program, the Resource Laboratories enjoyed the advantage of having an accumulated supply of materials that had been purchased over the course of several years. Almost without exception, the supply provided afforded teachers considerable latitude in their selection of instructional materials and assigned activities for pupils. There surely was enough variety to allow staff to make intelligent choices between and among what was available. Nor would the present equipment seriously hamper the staff's ability to

individualize instruction. The materials that have been provided are those which one would expect to find in such a program and which are commonly associated with a "math lab approach." The materials have generally been well chosen though there are notable exceptions.

As was noted in a last year's evaluation, where the materials appeared inappropriate it was usually because they either lacked direct relevance to the skills the program sought to teach or they would seem more useful in a program of mathematics enrichment rather than remediation. While not a serious deficiency, the type of materials purchased continues to cause some concern. They do not always seem to be the most appropriate selections nor do they necessarily appear to represent the primary choices of the instructional staff. The materials are centrally ordered. The same equipment tends to be supplied to all math labs. Considering variations in pupil needs as well as teacher skills and abilities, this would appear a questionable, though admittedly equitable, practice. It is suggested that a means of decentralizing the selection of equipment be considered. This would involve establishing direct ways of allowing teachers to request their own materials since they can best determine their own need. It may prove wise to review such requests centrally, and even make necessary changes, but it would appear highly useful to devise means of increasing direct teacher involvement in the choice of materials and equipment.

Teaching Procedures

The instructional staff, taken as a whole, seemed to be very capable. The teachers and educational assistants were skilled and committed in their efforts to improve the mathematical abilities of pupils. The past experience of the staff in conducting such a program was a great aid. They were able to spend more planning time improving the content of the program rather than concerning themselves with questions that are basic to implementation.

By the same token, such experience could allow the monthly training sessions conducted for staff to move into broader areas of concern. This should be done. The instructional staff has an excellent grasp of the mechanics of the program. They know what type of instructional activities are expected in a program based on a math lab model. They clearly appeared capable of organizing such a program and conducting it at a reasonable level of effectiveness. While a staff can always profit from exploring various instructional tools or techniques, they can equally profit from a close reexamination and analysis of teaching procedures that are commonly used in such programs. There is much to learn about making the best use of available time and equipment. There is a danger that the apparatus used can get in the way of the kind of instruction that could and should be done. Because it is available, there is a temptation to use it even in situations where it is spectacularly inefficient

and, quite possibly, highly ineffective. To note one such instance, pupils were listening to an audio tape asking them to subtract 6 from 9 in the most roundabout fashion conceivable. The task was preceded by music and an elaborately developed situation from which the example was eventually to be drawn. The teacher, like the pupils, was a silent listener to the tape. It would appear certain she could have presented the material just as effectively. Surely she could have done so in a more direct and concise manner. Instead, the teacher seemed consigned to sit lifelessly while the tape, with neither life nor mind, dominated the educational environment and assumed the teaching function. This is a misuse of the teacher, the teaching resource, and the time of the pupil. A similar audio-visual device often occupied the time of a group of students for a full period, while giving them the equivalent of three problems to solve. The teacher was again most often an observer during these proceedings. It would appear that technology is sometimes allowed to replace teachers in situations where it is simply less effective and where skilled teaching would be a vast improvement. There is a need to give greater thought to how available equipment can be used to its best advantage. In the same vein, the staff should be challenged not only to think about doing different things, but to think differently about some of the things they are already doing.

V. PROGRAM OPERATION

As noted earlier, each of the three separate components which combined to form the Title I mathematics program for the district were being conducted according to the outline suggested in the proposal. The teaching philosophy, classroom structure, and daily operation were consistent with the proposed design. Additionally, it was apparent during observations that the suggested administrative and organizational procedures were being employed. The record keeping that provided the necessary foundation for an individualized program of instruction was evident. A folder in which progress could be recorded was maintained for each child. A record was also kept on the pupils' diagnosed deficiencies as well as the progress made in remediating these deficiencies. In terms of classroom management and administrative procedures, a program of individualized, prescriptive learning was being conducted along the lines intended in the proposed design.

In terms of its initial organization, the program must deal with the matter of lost time. For the past two years it appears that almost two to three months of potential teaching time is lost in selecting pupils, organizing instructional groups, and completing the testing program. Administering the posttest at the conclusion of the year, and then scoring and recording results, represents an additional extension of this problem. The functions performed are necessary. The loss of teaching time cannot be eliminated,

but it can be reduced. While it is unclear exactly how much time can be saved, the loss is such that an effort to examine these processes more closely would clearly seem warranted.

As was noted last year, one school in particular does not appear to fully accommodate or support the intended design of the program. The difficulty in this school seems especially acute. It would appear that classes are often cancelled and staff used for a variety of non-program purposes, such as covering classes for absent teachers. The problem has not been resolved and it is again urged that it be addressed. It would seem to be an unfortunate waste of resources to use a teacher specially selected for specific skills and abilities in the organization and conduct of a mathematics laboratory as a permanent sub.

Mobile Unit

Two mobile units were proposed this year to service schools in distant parts of the district. One of the two units did not become operational until well past the middle of the school year. A partial cause of the delay was the refurbishing of an aging mobile unit, but this does not fully explain such lengthy delay. The other unit was functioning according to schedule, meeting students from the five schools to which it had been assigned.

This program appears to be accomplishing the goals set for it. Students have been engaged in the construction of

several projects, with major emphasis being placed upon the use of metric units in the conduct of project-related measurement activities. The students are also receiving instruction in the use of a variety of tools, from hand-held to power equipment such as band saws and drills. It is possible to observe a growing comfort and confidence in the use of such equipment. A good program of safety is also being conducted.

In general, the mobile units appear to be operating effectively. The program is capably staffed by two teams, the members of which are competent in their particular instructional roles. They are also able to maintain and service the mobile unit itself. The unit assigned to the mainland maintained a good record of continuous operation this year. The other unit, as indicated, was in a state of disrepair and it unfortunately experienced a number of breakdowns that limited its availability.

The projects that have been selected for construction by students seemed a repeat of last year's activities. These were useful and children can clearly profit from them, but it is suggested that the range of activities be broadened. This is also true of the related mathematical concepts. Great stress has been placed upon using mobile unit activities to teach the metric system. This is a reasonable but hardly an exhaustive use of its potential. At times the emphasis seemed misplaced in terms of the greatest needs of

pupils. It would appear profitable to examine additional activities that offer a wider integration of mathematical concepts.

To avoid any misunderstanding, the fact that this program operated quite well should be stressed. As was noted earlier, the staff is highly capable. The students certainly enjoyed participating and looked forward to coming. There was visible evidence of growth in the level of skill with which students used the equipment. There was also an increased understanding of how to plan, design, and carry a project to its conclusion. Overall, the mobile unti appeared to represent a program of useful instruction which nonetheless has additional educational possibilities which should be explored.

Experimental Program

This program was intended for use in two junior high schools. It became fully operational in only one of those two schools and even in this school it was quite late getting started. Difficulties are posed in the organization of any new program. The teaching staff must familiarize itself with a new set of teaching procedures as well as the use of a variety of innovative instructional equipment. Appropriate facilities must be located and all the equipment set up in working order. Additionally, preparation must be made for selection of students, testing, and developing a systematic

means of record keeping. On the whole, it is a large order and a late beginning is not totally unexpected since the staff involved had not previously been experienced in conducting such a mathematics program. It would appear useful, however, to have given the staff greater advance notice and understanding of what the program was going to entail than they seem to have received. This would have been a great aid in initial planning and preparation and may have avoided some of the difficulty.

Because the program was newly organized and was conducted as planned in but one school over a brief period, its relative effectiveness is somewhat difficult to assess. What can be noted in the school in which it did become operational was that the staff adhered to the proposed guidelines in organizing the program. The materials purchased were compatible with the manner in which the classroom was to be organized and instruction conducted. A specially selected group of instructional materials and equipment had been obtained and set up in a manner that facilitated its use by students. Beyond the programmed materials, a variety of teaching machines and other instructional equipment was also available for use by learners. The staff thus demonstrated a relatively clear conception of the organizational dimension of the program as it related to instruction. There was a computerized printout for each student which offered a diagnosis of deficiencies and a corresponding program of

instruction to remediate the weaknesses that had been identified. Students did not meet as frequently nor were the groups as large as the initial design stipulated. This was apparently due to scheduling complications. The general plan appeared to be that students would visit the lab twice weekly. Instruction was to alternate between the use of programmed learning machines and various software, the latter being accompanied by brief instructional sessions conducted by the teachers or educational assistant. The materials appeared to sustain student interest and the staff did a good job of organizing and conducting the program according to plan.

In the case of the second junior high school, the program functioned as a math lab, but not in the manner intended. For reasons that are not totally clear, the instructional materials upon which the entire program was based never did arrive at the school. As a result, the program conducted was not at all the one called for in the design. The math lab had no material beyond a variety of xeroxed sheets for most of the school year and this seriously limited any realistic attempt at individualization. Groups appeared to meet regularly, though the program was very late in getting started and their size was much smaller than was initially planned. What was conducted was a program of small-group instruction, heavily dependent upon the personal skills and efforts of the staff involved. While this was not without its benefits, it was never as effective as a more fully equipped mathematics

laboratory would have been. It is hoped that this was a temporary condition which will be rectified next year. In any event, if the program is to attain the major goal of individualizing instruction, a better physical facility will need to be provided. This appears to be crucial if the program is to function according to its design. The space provided this year was so inadequate that the district should consider drastically reducing class size or simply eliminating the program if more space cannot be made available.

In regard to this program, three recommendations are made:

1. There is a need to develop a better program for the training of staff. The teachers from this program met with the staff of the Mathematics Resource Laboratories, most of whom were elementary school teachers, for their training. They seemed to get less in the way of specific direction for their program, which is different in its organization and the age level of its students, than they could have used. The need is particularly acute in the school which was not fully equipped.

2. In a number of instances, the assignment of pupils to the math lab program appeared to be done by teachers. In such circumstances the students assigned may not always be those whose need is primarily academic. The testing program, as indicated in the guidelines, should be used as the major

determinant of what students need the additional aid provided by such a program.

3. There is a need for improved coordination between math lab personnel and regular classroom teachers.

Mathematics Resource Laboratories

This component of the mathematics program was served by a capable, veteran staff who knew how to organize the program outlined in the proposal. Their implementation of the design was highly consistent with what was called for as was the general pedagogical approach employed. There was considerable consistency between the labs in terms of the way learning stations were set up, records kept, and groups organized for instruction. Children appeared to enjoy coming to the mathematics laboratory and staff rightly placed a high premium on this. In the overwhelming majority of schools visited, a productive atmosphere was generally experienced. Students arrived and were quickly and effectively separated into instructional groups and assigned tasks. The teaching staff moved back and forth between groups directing their efforts and checking on the progress being made. There were many indications that students were profiting from their participation in the mathematics laboratories and were experiencing growth. The structure of the program had much to do with this. Small-group instruction was possible, there were a variety of materials to help maintain student interest, and

there were frequent changes of activity that improved the instructional pace and revived flagging interests. There was also a greater variety in the use of teaching techniques than many students are accustomed to and the staff had a good command of the conceptual, pedagogical, and subject matter content of their program. All this is to the good. On a broad basis, one must conclude that this is a useful program performing a necessary function. The staff has ably implemented a design that is generally in use in Title I remedial mathematics programs.

The program also had some potential weaknesses that the staff could profitably examine. The injudicious use of materials simply because they were available was mentioned earlier. This problem is sometimes compounded by a pedagogical bias which insists upon the use of manipulatives in situations where they are unnecessary or may even prove to be a hindrance. An example of this is the use of a variety of manipulative materials to aid students in computation. The theory is that children will learn computation better when it is built upon experience with concrete materials. Such a view is surely accurate and when maintained in proper perspective is an aid to learning. The dilemma is that it is evident that some children are becoming increasingly dependent upon the use of such materials and teachers are not providing the means or the opportunity to help them move beyond this primitive computational level. We thus succeed in imprisoning

students under the guise of freeing them. They remain chained to simple counting when there is a need to move on to mastery, at which we sometimes offer neither extensive aid nor much incentive.

A similar problem arises from what appears to be an implicit pedagogical assumption that conceptual understanding must precede or at least accompany any attempt at learning a computational skill. Insisting upon such understanding for every student results in a new orthodoxy that is frequently as rigid as the evil it was intended to replace. Again, an inappropriate use of manipulatives oftentimes compounds this problem as well. For example, the use of an abacus of colored plastic discs is frequently seen by teachers as a good way to "concretely" illustrate the columns in our base ten system. Yet these materials give no clear demonstration of differences between columns. They are as abstract and unclear as the numbers they replace. Their difference is in position and color, hardly a concrete demonstration of the numerical value of the units, tens and hundreds columns. Such procedures, automatically and widely employed, need to be challenged, for their presumed power to clarify may not be justified.

Another broad area of difficulty is the emphasis placed upon children enjoying the math lab. As was mentioned earlier, a positive attitude on the part of students is an appropriate concern of teachers. If overdone, however, it

can become a caricature which leads to the introduction of activities that are less calculated to educate than they are to entertain. One would place activities such as Pick-Up-Sticks, Scully, and Tic-Tac-Toe in such a category. The attempts to explain their educational power and validity appear strained. There are additional activities, one step removed from those listed above, whose instructional effectiveness is equally ambiguous and whose actual educational impact needs to be examined not assumed.

Test Results

As indicated earlier, students participating in the Mathematics Resource Labs were tested at the beginning and the end of the school year. Two different forms of the Stanford Diagnostic Mathematics Test (SDMT) were used as the means of measuring pupil progress. The results of the pre- and posttest comparisons are offered in Tables 19-22. The SDMT has three separate sections which measure number concepts, computational skills, and the ability to apply numerical understanding in problem-solving situations. The test results in each of these areas are presented separately. The last table (Table 22) represents the combined test results for all three areas.

Table 19

Pre- and Posttest Results on the Stanford Diagnostic Test for Grades 2-8 Number Concepts

Grade	Pretest			Predicted Posttest			Actual Posttest			t
	Mean	SD	N	Mean	SD	N	Mean	SD	N	corr.
2	0.79	.70	101	.67	1.09	101	1.84	.87	101	6.50**
3	1.81	.79	336	2.05	1.03	336	2.83	1.13	335	11.30**
4	2.85	.83	381	2.88	.99	381	3.67	1.38	377	11.45**
5	3.50	.80	330	3.99	.93	330	4.63	1.29	332	9.80**
6	4.01	1.09	313	4.40	1.24	313	4.94	1.47	307	8.33**
7	4.75	1.25	132	5.17	1.39	132	5.69	1.54	132	4.56**
8	5.22	1.59	214	5.62	1.75	214	6.00	1.75	211	3.91**

**$p < .01$

Table 20

Pre- and Posttest Results on the Stanford Diagnostic Test for Grades 2-8 Computation

Grade	Pretest			Predicted Posttest			Actual Posttest			t
	Mean	SD	N	Mean	SD	N	Mean	SD	N	corr.
2	1.15	.72	101	1.23	1.13	101	1.94	.67	101	5.44**
3	2.22	.66	336	2.38	.86	336	3.01	.89	335	8.44**
4	2.89	.79	381	3.28	.95	381	3.67	1.14	377	7.56**
5	3.75	1.96	331	4.19	1.11	331	4.95	1.50	331	9.32**
6	4.33	1.21	313	4.76	1.37	313	5.17	1.46	307	6.24**
7	5.59	1.68	132	6.01	1.87	132	6.65	1.79	132	4.18**
8	5.73	1.90	214	6.18	2.09	214	6.64	2.01	210	3.95**

**$p < .01$

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Table 21

Pre- and Posttest Results on the Stanford Diagnostic Test for Grades 2-8 Application

Grade	Pretest			Predicted Posttest			Actual Posttest			t
	Mean	SD	N	Mean	SD	N	Mean	SD	N	corr.
2	0.99	.60	107	1.0	.93	100	1.90	.53	101	7.14**
3	1.85	.67	336	2.10	.87	336	2.79	.91	335	11.66**
4	2.37	.77	381	2.65	.92	381	3.37	1.27	377	10.97**
5	2.97	.77	330	3.29	.90	330	4.23	1.63	329	10.30**
6	3.33	.95	313	3.63	1.08	313	4.57	1.60	307	10.81**
7	4.54	1.53	132	4.94	1.71	132	5.45	1.82	131	3.49**
8	5.25	1.85	213	5.65	2.03	213	5.90	2.10	208	2.06*

*$p < .05$
**$p < .01$

Table 22

Pre- and Posttest Results on the Stanford Diagnostic Test for Grades 2-8 Total

Grade	Pretest			Predicted Posttest			Actual Posttest			t
	Mean	SD	N	Mean	SD	N	Mean	SD	N	corr.
2	1.51	.19	100	1.80	.30	100	2.02	.42	101	5.81**
3	2.07	.39	336	2.39	.51	336	2.83	.83	334	13.19**
4	2.60	.63	381	2.92	.76	381	3.58	1.23	377	14.63**
5	3.49	.72	331	3.89	.84	331	4.60	1.18	330	16.40**
6	3.95	.87	313	4.33	.99	313	4.87	1.22	307	13.80**
7	5.02	1.23	132	5.47	1.37	132	6.02	1.41	132	7.21**
8	5.37	1.40	213	5.79	1.54	213	6.20	1.63	208	5.95**

**$p < .01$

The SDMT has been recently revised and this is the first year the district has used the new tests. A large number of the math lab teachers expressed dissatisfaction with the new forms. Many teachers felt that the tests had been made easier and as a result served their diagnostic purposes less effectively. They felt that the tests, in being made less challenging, no longer covered as wide a range of skills. Though students could perform more of the exercises given, teachers were given less of an opportunity to see where the skills broke down because the exercises were neither as demanding nor as varied as they had been. Some teachers also felt that the scoring was less reliable as a measure of student progress and that the way the test had to be administered (particularly the reading of problems to students) contained some serious defects. It would seem useful for the staff to discuss these problems openly at a monthly meeting and attempt to assess how reasonable the criticisms are and what, if anything, needs to be done.

As can be seen from the tables preceding, the students in the program demonstrated good overall growth. The comparison of pre- and posttest results in the three separate aspects of mathematics measured as well as the combined scores. All yield results that are statistically significant. That is, the growth registered is significantly higher than what could have been expected based on the prior

performance of the students. The purpose of this aspect of the evaluation design was to test for the existance of just such unanticipated results. The fact that the scores were significantly higher than the previous performance of the pupils would have led one to expect, can be attributed to the special intervention represented by the math lab program. As can be noted from the tables presenting the data, the probability that such growth would occur by chance is less than one in a hundred. Thus, the test results offer additional evidence that the program is serving a useful purpose and promoting growth in its pupils.

VI. SUMMARY AND RECOMMENDATIONS

To briefly summarize, with the exception of the one junior high school involved in the new experimental approach, the remainder of the Title I mathematics programs are operating according to the design put forward in the District 27 proposal. As noted earlier, one of the mobile units was very late in beginning its program and the one junior high, though it eventually became operational, was unable to adhere to the original design for lack of proper equipment. The reasons for the difficulty in these two instances are not completely clear, but give cause for concern and need to be discussed and resolved. The Mathematics Resource Laboratories appeared to function quite well and gave every appearance of being organized as planned. The instructional staff

demonstrated competence and a good understanding of how the program is designed to operate. The overall program clearly responded to a need for some form of specialized, additional instruction in the area of mathematics. The aid is necessary and the manner in which it was offered would clearly appear to be accomplishing much of the broad intent of the proposal. The sole reservation offered lies with the need to engage in a continuing and close analysis of the effectiveness of the design and procedures used. The single, overriding concern is to determine if the program has organized itself in the best possible manner to dispense those services which the pupils obviously need. Such a determination can best be accomplished by a closer effort at self-examination.

In the light of the comments made and a broad overview of the program, the following recommendations are offered:

1. There remains a need for the staff to continue to examine and discuss what the most efficient laboratory organization might be as well as which instructional approaches or techniques appear to be most effective. Any concept, irrespective of its newness or claims to be innovative is in danger of becoming a new orthodoxy if its basic procedures remain unexamined.

2. The program must deal with the problem of lost instructional time. Between the scheduling of classes and the administration of tests, it is possible for some schools

to lose up to 30% of the total teaching time available for the school year. Active steps should be taken to see what portion of the time lost to administrative and organizational concerns can be reclaimed for instruction.

3. Materials purchased for the program should be more carefully chosen. It is strongly recommended that the ordering process be decentralized and that the instructional staff be more directly involved in the examination, selection, and testing of equipment to be used in the program. There needs to be a better match between materials chosen and the instructional needs in individual buildings.

4. Greater effort should be made by the staff to examine and identify what specific materials and teaching procedures offer the most promise of upgrading computation and problem-solving skills. Less reliance should be placed on assumed effectiveness and greater emphasis on actual outcomes.

Optional Assignment Remediation Program
Function Number E.S.E.A. 5085-81681
Impact Aid Number 5085-88781
FINAL REPORT

Prepared by Dr. Linda Lyons

I. PROGRAM DESCRIPTION

During the 1977-1978 school year, paraprofessional personnel have been allocated at five elementary schools throughout District 27, to provide remediation services in reading to eligible pupils in attendance on optional assignment. During the latter part of the fall term, two educational assistants were also appointed to a junior high school program. The paraprofessionals, funded under Title I monies, were assigned to PSEN laboratories and provided small-group instruction to pupils under the supervision of a laboratory teacher. The educational assistants utilized a variety of instructional materials to develop the reading skills of participating pupils and maintained records of test scores and pupil activities in individual folders. In-service training was provided by program coordinators, who made on-site visits to the laboratories and held monthly workshops for elementary program personnel.

II. OBJECTIVES AND EVALUATION DESIGN

1. Several on-site visits were made to each elementary school, and one visit was scheduled at the junior high school, in which an optional assignment remediation program

had been organized. The programs were observed in operation and interviews were held with the administrative staff as well as project personnel.

2. Stanford Early School Achievement Tests in Reading were administered to first and second grade participants in the fall, 1977, and the spring, 1978. For these pupils, pre- and posttest scores were compared, based on a normal curve equivalent analysis, to determine if pupils showed signifi ant NCE gains in reading. Stanford Achievement Tests in Reading were administered to pupils in grades three through nine in the fall, 1977, and the spring, 1978. The method of historical regression was utilized to determine if pupil growth in reading exceeded that shown prior to their placement in the program.

III. PROGRAM IMPLEMENTATION

Organization of the Program

At the elementary level, one educational assistant, funded under Title I monies, has been assigned to each of five schools. At one of these elementary schools, an additional paraprofessional has been allocated under Impact Aid monies. During the latter part of the fall term, an educational assistant was assigned to each of two reading laboratories at a junior high school. All the educational assistants have been appointed to reading laboratory programs which were funded under tax-levy monies. The staff at

each laboratory consisted of a teacher and two educational assistants, who provided instruction to pupils eligible for services under PSEN, as well as Title I funds. Youngsters who were in attendance on optional assignment were drawn from Title I schools within District 27, and were eligible for the same services that would have been available to them at their home schools. Pupils were selected for placement in the program based on their performance on the New York City Test in Reading, administered in the spring, 1977, or, for pupils at the early elementary level, on the basis of teacher judgment. The elementary program serviced pupils in grades one through six, whereas the junior high school laboratory spanned grades seven through nine. Typically, at each session, seventeen pupils were accommodated. Optional assignment youngsters received instruction along with pupils serviced under tax-levy monies, and all participants were scheduled for three or four sessions each week.

Facilities, Materials, and Activities

At the elementary schools, a separate room was allocated exclusively for instructional services. These facilities were quite spacious and permitted accessibility to materials, and small-group instruction relatively free from distraction. The programs were fully underway by the end of November. Diagnostic tests had been administered initially to assess skill needs. In several instances, these measures were

readministered at midyear, to monitor pupil progress. Based on the results of these diagnostic inventories, individual and group profile sheets were compiled and updated throughout the year. Additionally, prescription forms which noted materials selected on an ongoing basis have been maintained for each participant. Because the laboratories had been operational during previous years, an ample supply of software and hardware equipment, which spanned the various grade levels, was provided. Repairs of equipment, as needed, were arranged at the schools. New materials which were utilized during the current school year included software and cassettes to develop vocabulary and comprehension skills. Most of these materials appeared to be appropriate for pupils in the upper elementary grades.

Typically, the elementary laboratories utilized a small-group approach to reading remediation. Pupils were placed according to specific skill needs, and the staff rotated to provide instruction to each of three groups. Some individualized work was offered, as well. The educational assistants often serviced pupils who were eligible for remediation under tax-levy, as well as Title I monies. This arrangement appeared to be favorable, in that the laboratories were able to accommodate the individual needs of each participant. Typically, two activities were completed at each session. These activities were often assigned to develop two different skills, although, in some instances, assignments

were given to reinforce the same skill area. Pupils were encouraged in several ways to develop an enjoyment in reading. Youngsters were able to take out books from the paperback library and, in several instances, the schedule was arranged so that, periodically, all pupils could select materials to read during a laboratory session. This activity appeared to be an excellent means of developing an interest in reading.

At the junior high school, separate facilities, which were ample for instructional purposes, were allocated at both laboratories. Initially, pupil needs were assessed with the administration of diagnostic tests. Record keeping, in terms of profile sheets and prescription forms, maintained for each participant, was similar to that utilized at the elementary schools. At both laboratories, diagnostic inventories were readministered later in the school year to obtain ongoing assessments of individual skill needs. An abundance of software and hardware equipment has been provided, in view of the fact that the laboratories had been ongoing in previous years. Some new materials to develop vocabulary and comprehension skills were also available.

The format of the junior high school programs was similar to that at the elementary schools, in that the laboratories functioned as instructional units. The staff serviced PSEN and Title I participants, according to individual needs. At one laboratory, small-group instruction was

provided on an ongoing basis. At the other laboratory, a more individualized approach was developed, and the staff offered assistance to participants, as needed. Circulating libraries were maintained in both cases, and some reading in the content areas was arranged. Various incentive measures have also been utilized. At one laboratory, charts which indicated specific skills mastered by each participant were on display. At the other laboratory, awards were given for the completion of a unit of work. In both instances, pupils appeared to be highly motivated by these procedures.

In-service Training and Continuity of Services

Several weekly periods have been allocated at the elementary schools to enable the laboratory teachers to confer with the educational assistants. On a district-wide basis, program coordinators at the elementary level have provided in-service training through on-site visits and monthly workshops. At these meetings, during the spring term, presentations were given on testing procedures, instructional techniques, and the use of teacher-made materials. Communication with pupils' classroom teachers has been maintained during the school year through the scheduling of periodic conferences. Workshops for parents of elementary school participants were held during the fall term. At these meetings, demonstrations of laboratory materials were given and pupil activities were discussed.

At the junior high school, in-service training was provided by a program coordinator who made on-site visits on a monthly or semi-monthly basis. Linkage with classroom teachers was accomplished through weekly written communications with pupils' English teachers. A workshop was also held to acquaint the parents of laboratory participants with program resources.

Overall, coordination of services and communication with the home were developed and implemented to a considerable extent at the elementary and junior high schools.

IV. PROGRAM EFFECTIVENESS

Qualitative indices of program effectiveness were obtained through periodic on-site visits to each of the schools in which an optional assignment program had been organized. Analyses of standardized test data provided quantitative measures of the effectiveness of the program.

The Stanford Early School Achievement Test in Reading was administered to first grade pupils in the fall, 1977, and in the spring, 1978. The Stanford Early School Achievement Test in Reading was administered to second grade pupils as a pretest, and the Stanford Achievement Test in Reading was administered as a posttest. A Model A analysis of these scores was employed, to determine if pupils made significant gains in relative group performance. For participants in grades three through nine, pre- and posttest performance on

the Stanford Achievement Test in Reading was compared. The method of historical regression was utilized to determine if pupils' growth in reading exceeded that shown prior to their placement in the program.

Results of these analyses are presented in Tables 23-25.

An examination of the raw scores of pupils in the early elementary grades indicated that first graders showed no progress in aural comprehension and second graders made no gains in word reading. On the other subtests, it was evident that first grade participants showed some growth in letters and sounds, and second graders made some progress in sentence reading. However, pupil growth on these subtests, in terms of NCE gains, was not significant. Although the staff appeared to focus on a diagnostic-prescriptive program to meet individual needs, progress in reading for pupils in grades one and two was limited. With regard to the analysis of test data, it may be meaningful in this case to consider that a small number of first graders was included in the data analysis, and that Model A is a more rigorous method than the raw score procedure which had been utilized previously.

An analysis of test results for pupils at the upper elementary and junior high school levels indicated that pupils in grades three, four, five, and nine showed gains that were significantly greater than their previous performance would indicate. For these participants, it is

Table 23

Model A Analysis of Stanford Early School Achievement Test Data in Reading--Grade 1

N	Subtest	Pretest Mean	Pretest %ile	Predicted Posttest Mean	Predicted Posttest %ile	Predicted Posttest Scaled	Actual Posttest Mean	Actual Posttest %ile	Actual Posttest Scaled	t
7	Letters & Sounds	21.14	52	38	52	104	35.43	36	88	-.46
7	Aural Comprehen.	19.42	39	18.3	39	112	17.57	32	110	-.06

Table 24

Model A Analysis of Stanford Early School Achievement Test Data in Reading--Grade 2

N	Subtest	Pretest Scores Mean	Pretest Scores %ile	Pretest Scores Scaled	Predicted Posttest Mean	Predicted Posttest %ile	Predicted Posttest Scaled	Actual Posttest Mean	Actual Posttest %ile	Actual Posttest Scaled	t
23	Word Reading	37.87	20	104	22	20	105	33.91	28	117	-.33
23	Sentence Reading	16.17	32	107	23	32	114	31.44	23	119	+.14

Table 25

Analysis of Stanford Achievement Test Data in Reading
Grade Equivalent Scores

Grade	Pretest Mean	Pretest SD	Pretest N	Predicted Posttest Mean	Predicted Posttest SD	Predicted Posttest N	Actual Posttest Mean	Actual Posttest SD	Actual Posttest N	t
				Vocabulary						
3	2.02	.99	27	2.33	1.28	27	2.56	.84	21	2.07
4	2.67	.67	27	3.00	.81	27	3.35	.73	21	2.11*
5	2.97	1.08	41	3.28	1.24	41	4.04	.82	34	4.96**
6	3.99	1.01	13	4.37	1.14	13	5.36	.65	7	.96
7	4.51	1.20	21	4.91	1.33	21	5.43	1.38	18	1.94
8	5.51	1.18	26	5.93	1.29	26	5.07	.98	28	-4.59
9	5.49	1.28	35	5.86	1.38	35	6.05	1.08	35	1.39
				Reading Comprehension						
3	2.37	.71	28	2.80	.93	28	3.44	1.17	28	3.08**
4	2.82	.55	28	3.18	.68	28	3.68	.47	26	3.80**
5	3.62	.91	46	4.03	1.06	46	4.10	.76	43	.16
6	4.61	1.17	14	5.07	1.32	14	5.56	.90	14	1.36
7	4.58	1.45	21	4.99	1.61	21	5.12	1.34	17	.17
8	5.12	1.04	26	5.51	1.13	26	5.32	1.52	28	.28
9	5.27	1.15	36	5.63	1.24	36	6.75	1.63	35	5.22**

Table 25 (Continued)

Grade	Pretest Mean	Pretest SD	Pretest N	Predicted Posttest Mean	Predicted Posttest SD	Predicted Posttest N	Actual Posttest Mean	Actual Posttest SD	Actual Posttest N	t
				Word Study Skills						
3	2.45	.81	28	2.90	1.07	28	3.96	1.26	28	4.79**
4	2.35	.46	28	2.62	.57	28	2.99	.76	26	3.61**
5	3.20	1.11	46	3.54	1.29	46	4.09	1.38	43	2.90**
6	5.00	1.73	14	5.24	1.97	14	5.48	1.64	14	.10
7	4.47	1.71	21	4.86	1.90	21	4.58	1.90	17	-.96
8	4.82	1.39	26	5.19	1.53	26	4.47	1.42	28	-2.03
9	4.57	1.41	35	4.87	1.53	35	5.28	1.40	34	2.33*
				Total Reading						
3	2.37	.67	28	2.80	.88	28	3.66	1.17	28	5.79**
4	2.61	.40	28	2.92	.50	28	3.33	.50	26	5.72**
5	3.37	.75	46	3.74	.88	46	4.04	.71	43	1.88
6	4.84	1.08	14	5.34	1.24	14	5.54	1.02	14	.52
7	4.66	1.39	21	5.07	1.55	21	5.22	1.54	17	.66
8	5.04	1.04	26	5.42	1.14	26	4.96	1.21	28	-1.64
9	5.05	1.35	36	5.39	1.47	36	6.05	1.30	34	5.00**

*$p < .05$
**$p < .01$

evident that the program objective has been met. Although pupils in grades six and seven showed some progress in all three subtests as well as total test scores, their growth did not exceed that shown prior to their placement in the program. The performance of eighth graders was particularly disappointing, for these pupils made no gains in vocabulary or word study.

Overall, pupils at the middle elementary level and those in grade nine made substantial progress in reading throughout the course of the school year. The fact that pupils in grades six through eight showed limited growth warrants a reassessment of the program for participants in these grades. It is possible that additional motivational strategies may be needed to upgrade the reading level of these pupils. Nevertheless, observations of the program indicated that pupil needs were diagnosed and, overall, materials appeared to be utilized appropriately to develop individual skills. The laboratory teachers provided ongoing supervision of pupil activities, and coordination of services appeared to be accomplished in an efficient manner. These program strengths were reflected in the substantial growth in reading demonstrated by more than half of the laboratory participants.

V. RECOMMENDATIONS

1. For a majority of participants, the optional assignment remediation program was effective in promoting substantial growth in reading, and it is recommended that the program be recycled.

2. At several elementary schools and at the junior high school, diagnostic measures were readministered at midyear to obtain a periodic assessment of pupil needs. It would be beneficial for the other laboratories to utilize these measures on an ongoing basis.

3. Free reading sessions were scheduled periodically at several elementary schools. It would be advantageous to arrange these activities at the other laboratories, to develop further a positive attitude toward reading.

4. Because pupils in grades six through eight showed limited gains in reading over the course of the school year, a reexamination of the instructional format at this level is warranted. Some modifications in the prescriptive approach or the institution of innovative motivational practices may be needed to develop the reading skills of pupils at these grade levels.

VI. SUMMARY

Educational assistants have been assigned to each of five elementary schools throughout District 27 to provide remediation services in reading to eligible pupils in

attendance on optional assignment. Two educational assistants were also appointed to a junior high school program during the latter part of the fall term. The educational assistants were based at reading laboratories funded under tax-levy monies, where small-group instruction was provided to participants three or four times a week. Records of test data and pupil activities were maintained in individual folders. Because the laboratories have been ongoing for some years, an abundance of software and hardware has been available to develop an approach according to pupil need. Typically, two activities have been ongoing at each session and, at several elementary schools, free reading periods have been scheduled periodically. Communication with pupils' classroom teachers has been maintained on a regular basis and parent workshops have been scheduled. In-service training has been provided by coordinators who have made on-site visits throughout the school year. Additionally, monthly workshops have been attended by the elementary school staff. Standardized test data indicated that more than half of the participants made significant gains in reading over the course of the school year. Recommendations included program recycling, ongoing diagnostic assessments of pupil needs at all schools, periodic scheduling of reading sessions at all laboratories, and reassessment of the program for pupils in grades six through eight.

Evaluation and Parent Involvement
Function Number E.S.E.A. 5085-81651

FINAL REPORT

Prepared by Dr. Elaine Chapline

Evaluation activities were carried out by consultants who have met the Board of Education's job specification requirements. Each of the program sites was visited according to the schedule planned (i.e., four times each to Reading Resource Laboratories and Mathematics Resource Laboratories, etc.). Consultants prepared Interim and Final Reports and reported orally to the Title I Advisory Board, its Executive Board and the Community School Board their perceptions of the programs.

A significant part of the Evaluation Team's efforts called for participation in the parent involvement program. Parents who had been in the training program sponsored by the District-wide Title I Advisory Board accompanied professional educators on visits to program sites. Several of the professional educators commented favorably about the perceptiveness of the parents and the value of their input.

Workshop Program

In accord with the proposed program, a series of workshops for parents of Title I eligible children was held designed to acquaint parents with the curriculum of the Reading, Mathematics, and Bilingual Resource Laboratories. Notices of the workshops were posted and announced in each Title I

school. Sessions were held on the mainland in PS 45 and in the Rockaways at PS 225 in the fall, and at PS 223 and PS 105 in the spring. The content of the sessions focused on the objectives of the Title I program, diagnosis of children's needs, and instructional strategies designed to meet children's needs. Visits to the laboratories in the host schools were carried out. The role of parents in encouraging children's learning was stressed. Reading workshops were conducted by Dr. Glenna Davis in the fall and Mr. John Formanek in the spring. Mathematics workshops were conducted by Mrs. Beatrice Williams and Dr. Arthur Salz in the fall, and by Dr. Paul Longo in the spring. An introductory bilingual workshop was conducted by Dr. Elaine Chapline in the fall. Sessions were held on October 11, 13, 18, 20, 25, and in April 6, 7, 13, and 14. A total of 51 people took part in this fall series, and 62 in the spring. This represents an interesting increase in participation, since last year's fall workshop series was attended by 38 parents and spring by 42 parents.

Evaluation Aides

An Evaluation Aide Training Program has been developed to increase skills of parents in evaluating federally funded programs. This program is specifically directed to aiding parents in carrying out the evaluation function mandated to them as part of Title I guidelines.

Parents of Title I eligible children were informed through notices to each school's Parent Advisory Council which announced the workshop's time and place. The content of the sessions for parents participating in the fall for the first time included: program objectives, styles of implementing programs, diagnosis of learning needs, the role of testing, observation schemes for use in the field, and the ethics and procedures for field observations. An advanced series of workshops was designed for participants who had been in the previous series of workshops and who had carried out field visits. That series included: planning for a future parent education program using a slide and audiotape presentation, learning about preparation of proposals for future programs, and learning how the local district relates to the New York City Board of Education. Mrs. Arlene Pedone served as a consultant on the relationship of the Board of Education to the local district.

Sessions were held at PS 183 in the fall for the first-year training group. Sessions were held at PS 183 and PS 96 for the experienced participants group. A total of 31 individuals participated in this series of workshops. This was an increase over the 21 women who participated in fall 1976. A spring "refresher" session was held in the spring for the experienced participants.

In order to qualify for participation in the field component of the program, a person had to attend all training

sessions. Twenty-five women were qualified as members of the field visitation team. These people were scheduled to accompany the professional evaluation consultants on visits to program sites during December-January, and April, May, and June. All schools were visited despite cold weather and difficult traveling conditions in the winter. Spring visits preceded and followed posttesting in the laboratories. The able assistance of two parents who served as community liaison people made the scheduling and schedule changes workable.

Final sessions at which participants reported on their field visits were held on January 25 and June 22 at PS 183. The participants in the meeting offered useful detailed information on program operation. They had acquired a broad range of information on the way the various Title I programs were operating in the schools of the district.

It became apparent that some measure of the knowledge acquired by parents in the training programs would be useful. A series of questions, to be answered True or Not True, was developed. Completed items in which the respondent had to identify the name of a person who held a particular job were also devised. Clarity was studied by using the responses of six staff members intimately concerned with the parent involvement program, and those of a sample of parents who were not in the training program. The questionnaire shows promise of being a useful technique for determining the extent of

parents' knowledge of the program. (The trained group of parents showed considerable mastery of the information included in the questions. The average score was 11 correct out of 14 items.)

Parents who participated in the Parent Training Program were highly positive in their evaluation of that program. In completing the item "For me, the parent training program was," parents said, for example,

> "Exciting and educational. It showed me ways in which to help my children and others. It helped me learn to explain the labs to other parents."
>
> "Very informative. I learned more about the educational system of New York. I also gained knowledge that I could use to help my own child."
>
> "Very informative as far as what the Title I schools are doing for the children in our schools."
>
> "Very rewarding and educational for me. It enabled me to help my children."

The best thing about the program, as the parents saw it, was:

> "Visiting the labs, learning to use and being able to explain the equipment."
>
> "Visiting the various schools and becoming acquainted with the labs."
>
> "Seeing how the labs help the children with reading, math, and communication and bilingual."
>
> "Being able to meet the other parent evaluators and teachers and sharing ideas."

In identifying the worst thing about the program, parents indicated:

"Not enough parents involved."

"Some of the traveling is difficult."

"Interruptions in the lab program--like testing or a teacher out of a lab."

Their suggestions for improving the program included:

"Training program should be explained at the PA in the beginning so there would be more participation by parents."

"I would like to see the program continued."

"Should be more publicized in the schools."

"Should notify parents about problems in labs that have been corrected."

In general, then, the tone of the evaluation was quite positive. The recommendation for continuing and expanding parent participation was clear.

The Title I Advisory Board sponsored Title One Workshops and Conference on June 14, from 6:00 to 10:00 P.M. at PS 223. The theme was "The more the parents learn, the more children grow." The program included workshops on reading, mathematics, and bilingual education, scheduled so that parents could attend two sessions, and panels on parent involvement and evaluation. The chairperson of Title I Advisory Board coordinated the conference. The Director of Reimbursable Programs welcomed participants. A slide-tape presentation explaining Title I was shown and the District Superintendent, in summary, discussed the prospects for the future for reimbursable programs in District 27.

Attendance at the conference, which began with a buffet supper, was higher than anticipated. The support of the

professional staff in providing workshops and materials was noteworthy. A representative of the State Education Department and of the New York City Board of Education participated significantly in a panel. The variety of activities and the coordination of them had required extensive preparation by a large committee of parents.

Participants were provided with an evaluation form in their envelope of conference materials. The general picture which emerges from the evaluation of the conference is very positive. It appears that the participants felt that the program was extremely helpful. They were enthusiastic in their praise for the experience.

A total of 104 people turned in completed evaluation forms at the close of the conference. Percentages of people giving particular ratings are summarized below.

Item	Rating	Percent
1. In helping me with my child, this conference was	Poor	0
	Not very helpful	1
	Helpful	14
	Quite helpful	15
	Very helpful	70
2. In helping me understand the programs in my school, this conference was	Poor	0
	Not very helpful	0
	Helpful	17
	Quite helpful	17
	Very helpful	66
3. In helping me know what to do in my school's PAC, this conference was	Poor	1
	Not very helpful	3
	Helpful	22
	Quite helpful	17
	Very helpful	57

Item	Rating	Percent
4. The presentations at this conference were	Poor	0
	Not very interesting	0
	Interesting	15
	Quite interesting	22
	Very interesting	64
5. The workshops at this conference were	Poor	0
	Not very interesting	0
	Interesting	11
	Quite interesting	22
	Very interesting	67
6. Overall, this conference was	Poor	0
	Not very worthwhile	0
	Worthwhile	8
	Quite worthwhile	14
	Very worthwhile	78

In addition to the ratings, participants had space for comments on the evaluation forms. Many of the people took advantage of the opportunity to write in a comment. A total of 39 people wrote comments--more than one-third of the response forms contained this additional information. The comments were overwhelmingly laudatory. For example:

"Excellent--see you next year."

"I go home tonight very confident and encouraged to help my children."

"I will attend as many workshops as possible in the future."

"I enjoyed this conference very much and learned quite a bit."

"I attended my first conference tonight and I had a most remarkable time. Thank you."

"More! More! More!"

and others.

Among the suggestions offered for any future conferences were: hold longer workshops, have a longer conference, have an all-day conference on a weekend, provide more time for feedback and evaluation, have more teachers participating in the workshops, hold the conference towards the beginning of the term rather than toward the end, and others.

In summary, the data clearly presents the picture of a successful event in the eyes of a large number of participants. This new venture, which aimed to build a larger base of parental involvement appears to have met that goal.

The parent involvement program, as a whole, seems to have been steadily increasing in scope and size. As parent input is used to improve the program, the program planners aim to further increase the basic parent involvement in Title I planning and evaluation.